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THE INSECT PEST SURVEY BULLETIN

A periodical review of entomological conditions throughout the United States, issued on the first of each month from April to November, inclusive.

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OUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES FOR THE MONTH OF JUNE, 1925

The outstanding feature for the month and in fact for the entire spring and early summer is the general destructive prevalence of cutworms extending from Maine to Oregon and south to the Gulf, practically every State from which reports were received mentioning their serious abundance.

The chinch bug is appearing in threatening numbers in south-central Illinois, southwestern Missouri, Nebraska, and Kansas, and these insects are reported as more troublesome than they have been in the past 18 years in the Yazoo-Mississippi Delta region.

Considering the country as a whole the grasshopper situation is not serious. In the Great Plains region they appear to be less numerous than they have been for the last 15 years.

White grubs are generally numerous and destructive in the Mississippi Valley and heavy flights of beetles are reported from Pennsylvania.

The Hessian fly situation has not materially changed from the condition reported last month.

The stalk borer is appearing in unusually destructive numbers in the east-central States.

The codling moth appears to be more numerous than usual in Indiana, Illinois, and Arkansas, and the tent caterpillar seems to be as serious as last year over New England.

The plum curculio situation seems to be very favorable over the southern peach belt.

The seed corn maggot is reported as more or less destructive to truck crops in New York, Ohio, Wisconsin, Nebraska, Montana, and Oregon.

In Ohio and Indiana the banded flea beetle has been unusually destructive this season.

The most serious infestation by garden slugs attacking truck and other plants is recorded from Sonoma and Sacramento Counties, California.

The tomato suckfly is reported for the first time as a pest in Mississippi, and the Australian tomato weevil has been reported from Escambia County, Florida.

The cabbage maggot is reported from New York State westward through Ohio to Indiana, Illinois, and Wisconsin, and also reported as doing considerable damage in Oregon.

A very interesting report was received from Mr. R. R. McLean, through Mr. T. D. Urbahns to the effect that Scaptomyza terminalis Loew (Drosophila terminalis Loew) has destroyed 20 carloads of cauliflower in San Diego County, California. This species has never previously been recorded as a serious pest. The only records we have are: "on radish leaves", Berkeley, Calif., White Mountains, N. H., Mesilla Park, New Mexico, and Sitka, Alaska.

In the western half of the cotton belt there is little likelihood of more than local damage by the boll weevil unless reasonably rainy weather prevails during the next 30 days or more. The cotton aphid is reported as generally prevalent over the cotton belt extending from Tennessee and Illinois southwestward over Texas.

A rather serious outbreak of one of the tiger moths, Apantesis oithono Stkr., is reported from eastern and southern Mississippi, and the beet armyworm is very seriously damaging the cotton in south-central California.

Tobacco has been seriously injured by cutworms and webworms in the southern tobacco belt and the worst outbreak of the eastern field wireworm ever recorded in the shade-growing tobacco section of the Connecticut Valley is reported this year. In this latter region crane flies are also seriously infesting the tobacco.

An undetermined species of Trichobaris is reported as attacking tobacco in Arizona and New Mexico.

The lime tree spanworm is generally prevalent and in places seriously numerous in the forest areas of New England and New York State.

We have failed to confirm the occurrence of Brood XXIV of the periodical cicada in the southern Mississippi Valley and Brood XVI in Nebraska.

A leaf beetle, belonging to the Colaspis brunnea complex, is defoliating pine over a very considerable area in Mississippi and Louisiana, the Louisiana infestation extending over 15 miles.

The sticktight flea infestation was greater in southwestern Texas this spring than it has been for many years and the losses in egg production and young chickens were very heavy.

OUTSTANDING ENTOMOLOGICAL FEATURES IN CANADA FOR JUNE, 1925

The most striking entomological feature in Canada for June is the great prevalence of cutworms of various species in almost every province of the Dominion, particularly in the Prairie Provinces.

In the Prairie Provinces extensive areas are infested; the red-backed cutworm being the principal species in Manitoba and Saskatchewan and the pale western cutworm in Alberta. Although the infestation in Manitoba is widespread, severe damage is largely localized, but in Saskatchewan the worst damage is occurring over a broad belt of country extending from North Battleford and Prince Albert in the north to Regina and Yorkton in the south. The area most affected in Alberta is situated northeast of Calgary, centering on Morrin and Drumheller, where much of the grain crops have been destroyed.

Cutworms are also reported doing extensive injury to many kinds of field and garden crops at points in the Maritime Provinces, southern Ontario, and British Columbia.

Wireworms, principally Ludius aereipennis Kirby and, to a lesser extent, Cryptohypnus nocturnus Esch., have caused widespread injury to seed and young plants in southern Saskatchewan. Reports of severe damage by wireworms have been received also from the Treesbank district, Manitoba, and from the New Dayton and Foremost districts, Alberta.

The rose chafer is very abundant and destructive in several of the sandy sections of southern Ontario.

Cankerworms have caused defoliation in many neglected apple orchards in Welland, Lincoln, Wentworth, and Brant Counties, Ontario. They have been troublesome also in orchards of the Annapolis Valley, N. S., and in the wooded country at Cattineau Point, Que.

The tent caterpillar outbreak in southern Saskatchewan has been as severe as in 1924, despite the high percentage of mortality due to parasitism and disease last year. Tent caterpillars have been complained of as troublesome in orchards of the Lower Fraser Valley, B. C., and in the Hemmingford district, Quebec. Very little trouble has been experienced this year in the Maritime Provinces.

The larch case bearer is abundant on larch throughout New Brunswick and is severely defoliating tamaracks throughout the Annapolis Valley, N. S.

The oak and hickory plant bugs, Lygus quercalba Knqt. and L. caryae Knqt. are again abundant and injurious in many pecan orchards in the Niagara district, Ontario.

CENTRAL FIELDERS

GRASSHOPPERS (Acrididae and Locustidae)

Florida — F. S. Chamberlin (June 19): Grasshopper attacks, although rather severe early in the tobacco-growing season, have now ceased. The species most common at Quincy this season were Melanoplus atlanis Riley, Melanoplus propinquus McNeill, Chortophaga viridifasciata DeGeer, Dissosteira carolina L., and Orphulella pelidna Burm.

Missouri — L. Haseman (June 25): As yet no complaints of real grasshopper damage have begun to come into the office, but from field observations grasshoppers are quite abundant throughout different sections of the State and if later in the season unusually dry weather should develop, we shall probably have a considerable number of complaints.

Nebraska — M. H. Swenk (May 25-June 25): The first reports of trouble with grasshoppers in this State were received June 19 from Dawes County.

Mississippi — R. W. Harned (June 22): Reports regarding grasshopper injury are received from scattering localities throughout the State. Melanoplus atlanis and Trimerotropis citrina Scudd. are the species most in evidence. J. A. McLemore reported these insects as having seriously injured peaches in Pearl River County during May. Early in June the same species were reported as ruining garden crops in Neshoba County.

Kansas — J. W. McColloch (June 21): Grasshoppers are beginning to make their appearance in several sections of the State, as shown by reports coming to this office.

Texas — W. A. Baker (May 25): The farmers have been given temporary relief, at least, as a result of the rains bringing on a large amount of native vegetation. The intensity of the infestation in proportion to the amount of available food has been materially reduced.

One farm that was planted to 25 acres each of corn and cotton was completely covered and surrounded with water during the recent rains for a distance of two miles, except for high places and levees. All except about an acre of cotton was completely eaten up before the rains and the corn was rapidly suffering the same fate after the rains. The hoppers concentrated on the high points during the overflow and had immediately returned to the field after the water had subsided.

H.S. Adair (May 28): Grasshoppers are becoming quite noticeable in the Brownwood section. Their presence in alfalfa and grass fields in destructive numbers is very evident although little damage has been done to date. The appearance of grasshoppers in large numbers is somewhat later this year than usual, probably owing to the lack of rain earlier in the season.

South Dakota — H. C. Severin (June 25): Grasshoppers are less numerous with us this year than they have been for 15 years. We expect no trouble from them in South Dakota.

Montana — Stewart Lockwood (May 20): The Mormon crickets are fairly well scattered over the two northwestern counties. They are not quite as numerous as they have been the last two years. I did not see as many bands nor were they as large in the territory covered as I had expected to find. They are now in the third, fourth, and fifth instars and are spending considerable time traveling. Very few of those bands were anywhere near cultivated crops, though some of them were within easy range of the few isolated farms I saw. For the most part, however, they promised to do more damage by far to the range grasses than to field crops.

There is no doubt in my mind that considerable damage will accrue to the farmers and that many more, because of the fear of the crickets in the crop, will live on the farms and attempt to make their living in the oil fields and other places. The country is mountainous, quite broken, and in a considerable part of the area cropped the soil is such that the ultimate success of farming small crops is very problematical.

(June 8): The numbers of Melanoplus atlanis in Montana are not as large as last year. Considerable damage is being done by this insect in the dry-farming regions of Stillwater County. Melanoplus bivittatus Say, now ranging from the first to the fifth nymphal instar, numbers from 10 to 50 to the square yard in many rather restricted localities in the irrigated valley of the Stillwater River. This also applies to Camnula pellucida Scudd.

Colorado, Utah, Montana, Wyoming. Stewart Lockwood (June 8): The Mormon cricket, Anabrus simplex Hald., has been observed in very large numbers in the Uintah Basin in Utah and in Moffat and Rio Blanco Counties, Colorado. The area infested seems to be of the same size as for the last three years and the number of crickets about the same. The same species has been reported to this office as present in more or less destructive numbers in Sanders County, Montana, and in Fremont and Hot Springs Counties, Wyoming, and is proving to be a serious pest in Washakie County, where it is reported by the county agent to be in much larger numbers than it has ever been observed. Some of the crops have been lost.

WHITE GRUBS (Phyllophaga spp.)

Maine E. M. Patch (May 25): Several nearly grown larvae were sent from Caribou with the report, "We found them first last fall in our orchard, where they had completely undermined the sod and at the ends of the potato rows adjoining had eaten deep holes into the potatoes. This spring, when plowing, found many of them."

Massachusetts A. I. Bourne (May 26): We noted the first June bugs at Amherst flying about the night of May 10, somewhat earlier than was the case last year.

Pennsylvania T. L. Guyton (May 29): June beetles are coming to lights in great numbers in the vicinity of Harrisburg, probably marking the appearance of the brood. (June 8): I am sending specimens of June beetles, Phyllophaga inversa Horn, which are coming to lights in great numbers in the vicinity of Harrisburg, probably marking the appearance of the brood.

Ohio F. C. Bishopp (May 27): May beetles have been present in numbers around lights and on trees at Columbus during warm nights since May 10.

Indiana J. J.Davis (June 24): More injury, especially to corn, than was anticipated from third-year grubs. This was no doubt largely due to weather conditions.

Wisconsin E. L. Chambers (June 10): Many strawberry growers are complaining of white grubs but they do not seem to be any more serious than last season.

Minnesota — C. E. Mickel (June 13): There is a rather serious outbreak of white grubs in the southwestern corner of the State, principally in Rock County. The county agent estimates that there are about 3,000 acres infested, but the area may be larger than this. The grubs also did considerable damage last year and are very plentiful in the same fields this year.

Nebraska — M. H. Swenk (May 1-25): Complaints of white grubs destroying lawns and working in gardens in southeastern Nebraska continued to be received during May. The flights of May beetles, however, have been very light this spring.

Kansas — J. W. McColloch (June 6): At Wellington the adults of Phyllophaga lanceolata Say are appearing in countless thousands in the fields, while in Gray County last week I found the beetles abundant in wheat fields near Copeland. (June 21): The adults are appearing in countless thousands in the wheat fields according to reports from the Sumner County farm adviser.

Texas — F. L. Thomas (May 21): A correspondent from Ralls writes that they have wingless May beetles, Phyllophaga cribrosa Lec., every year, but this year they seem to be worse than ever.

CUTWORMS (Noctuidae)

Maine and Massachusetts — J. V. Schaffner, Jr. (June 2): A great amount of damage is being done through eastern Massachusetts, especially in the small gardens. One report from Augusta, Me., stated that in one acre of strawberries 90 per cent were destroyed and another from Portland referred to them as quite abundant and feeding on small lettuce, carrots, and celery.

Massachusetts — A. I. Bourne (June 22): I find that cutworms are the outstanding pests in all sections of the State. One writer reported finding 29 to 30 cutworms in the soil close to an injured tomato plant. Tobacco growers have been unusually hard hit this season where the combination of cutworms and, to a somewhat lesser extent, wireworms has meant resetting large areas of their fields. In some cases resetting has had to be done two or three times.

Prof. Koon has reported that for the market-garden region around Boston practically all vegetables have been injured more or less. He states that the present year's infestation is the worst he has ever observed and in some cases he has estimated damage to the crop up to 50 per cent.

Connecticut — W. E. Britton (June 24): An unusual amount of injury by cutworms to all vegetable crops all over the State. They are apparently more abundant than in the average year.

Rhode Island — A. E. Stene (June 20): Cutworms were abundant in a few places earlier in the season.

New York — R. G. Palmer (June 13): Very abundant in the muck areas of Orleans County.

Ohio — H. A. Gossard (June 23): One of the Hadena stalk borers, probably fractilinea Zell.,was received from Akron June 17, where it was said to be doing considerable damage attacking corn.

Indiana — J. J. Davis (June 24): Reports of injury to various crops, particularly to corn, were received from many sections of the State prior to June 2. No reports have been received since that date.

Wisconsin — E. L. Chambers (June 10): Several complaints have been received from sufferers from cutworms and a few specimens have been received from the southern part of the State.

J. E. Dudley, Jr. (June 15): There has been an unusual outbreak of cutworms, probably of several species, through the latter part of May and first of June attacking general crops in the southern part of the State. Many complaints have come in from farmers.

Minnesota — R. E. Wall (June 13): Many reports have been received concerning cutworm outbreaks. They seem to be more numerous than they have been for the last few years. At this date many of them are already changed to the pupal stage.

South Dakota — H. C. Severin (June 1): Cutworms of several species were exceedingly abundant over South Dakota this spring. The damage done was severe.

Nebraska — M. H. Swenk (May 1-25): In spite of the cool, backward character of most of the month of May, only a few reports of injury by cutworms in cornfields were received, though there was a normal amount of complaint of their injuries in gardens. (May 25-June 25): Immediately following May 25 reports began coming in numerously. The period of heaviest injury was May 27 to June 9, and although more or less cutting of corn took place over practically the whole of the State injury was especially severe in the cornfields of the sandhill region, where the dark-sided cutworm, Euxoa messoria Harr., was apparently the principal offender.

Kansas — J. W. McColloch (June 21): Cutworms caused a heavy loss to corn in Jewell, Riley, Pottawatomie, Greenwood, and Lincoln Counties. It was necessary in many cases to replant whole fields.

Mississippi — R. W. Harned (June 22): From the southern and western parts of the State many complaints have been received in regard to cutworm injury to various crops.

On June 15 a report was received from Holmes County that in an 8-acre field of cotton there were 2 acres where 90 per cent of the cotton had been cut down by cutworms. The specimens received from this place were determined by H. W. Allen as mostly the shagreened cutworm, Feltia malefida Guen., with a few specimens of the granulated cutworm, Feltia annexa Treit.

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On April 28 J. A. McLemore reported cutworms doing serious damage in and near Picayune to sweet-potato plants, corn, cotton, and all kinds of garden and truck crops.

On May 12 H. W. Knight, of Collins, reported that one man collected 4,000 cutworms on a 4-acre field of cotton and that about half of a 15-acre field belonging to another man had been destroyed by them. The worms received were determined by H. W. Allen as Feltia annexa.

On June 15 N. D. Peets, of Laurel, sent in a large number of cutworms with the statement, "These cutworms are doing considerable damage to soybeans. I found from 1 to 7 cutworms in most of the hills examined. These were determined by H. W. Allen as mostly the granulated cutworm, Feltia annexa, with some of the shagreened cutworm, Feltia malefida, among them.

Oregon — Don C. Mote (April 22): The county agent of Baker County reports gray cutworm doing serious damage to alfalfa on one ranch. The worms are present in all sizes. This cutworm did heavy damage 15 years ago, feeding up till the middle of June according to growers.

BRONZED CUTWORM (Nephelodes minians Guen.)

Ohio — Herbert Osborn (May 28): During the last week or two we have had numerous reports in pasture and meadow lands of cutworms, or, as they have sometimes been termed, "armyworms." In two cases where specimens have been submitted, these have proved to be the bronze cutworm, Nephelodes minians.

H. A. Gossard (June 23): The bronze cutworm has, of course, ceased damage in central Ohio. We estimated that from 4,000 to 6,000 acres of pasture in Licking County and surrounding counties were completely devoured by this insect. Since a polyhedral disease was present among them, we are not expecting any heavy brood of moths this summer and fall.

PALE WESTERN CUTWORM (Porosagrotis orthogonia Morr.)

North Dakota — C. N. Ainslie (June 18): One of the interesting facts connected with the temporary (?) subsidence of the pale western cutworm in western North Dakota is the almost total disappearance of Calosoma adults in the wheat fields of that region. These predacious beetles multiplied during the recent cutworm outbreak and were common in most fields, while their larvae attacked the cutworms underground. At present they are very rarely seen.

ARMY CUTWORM (Chorizagrotis auxiliaris Grote)

Nebraska — M. H. Swenk (May 1-25): Heavy flights of the moth of the army cutworm began to be reported from southwestern Nebraska during the week of May 18 to 23 and the moths are also appearing abundantly as far to the eastward as Lancaster County.

Nebraska and Wyoming — M. H. Swenk (May 25-June 25): Heavy flights of the moth of the army cutworm continued through western Nebraska until the end of May, when they abruptly ceased. From eastern Wyoming, however, a report of great flights of these moths as late as June 8 was received.

Kansas — J. W. McColloch (June 21): The adults have been very abundant over the State during the last of May and the first two weeks of June.

BLACK-LINED CUTWORM (Agrotis fennica Tausch.)

Maine — E. M. Patch (June 1): Last-instar larvae. County agent at Hope reports, "They eat one row of peas and then move on to the next." (June 9): County agent at Portland writes, "This caterpillar has been raising havoc with the Cape farmers, eating beets, cauliflower, cabbage, and peas. They strip an acre of cabbage in one night."

New York — F. B. Morris (May 21): Specimens were received from Oswego. They destroyed a whole field of lettuce and part of a bed of spinach.

Michigan — R. H. Pettit (May 26): The county agent at Ewen writes as follows "I found the worms present over an area 10 or 12 miles long and 5 or 6 miles wide. Wherever the second-growth timber had not been killed by the fire, we found very few worms, but where the fire had killed nearly all vegetative growth and last year only fireweed was growing, the worms were very thick." He believes there is some relation between fireweed and these cutworms. He says further: "The worms have crawled off the cut-over land onto the first row of farms next to the cut-over land. When they first hit a farm they eat nearly everything in sight but are especially fond of clover, strawberry plants, dandelions, and garden crops. Plants which produce a blade, rather than a true leaf, do not seem to be much attacked."

"One farmer tried spraying his strawberry plants with the same arsenical material he used on his potato vines last year. He received about 95 per cent protection."

WIREWORMS (Elateridae)

Massachusetts — A. I. Bourne (June 22): I have received one report from a fruit grower of northern Worcester County who is cooperating with the Station on some of our projects, that he has observed click beetles on young trees, apparently gouging out the buds. While this has not yet assumed alarming proportions, in a few cases small trees were very seriously injured.

Indiana — J. J. Davis (June 24): Injury to corn in bottom lands was reported May 21 at Orestes.

Nebraska — M. H. Swenk (May 25-June 25): From Knox County we have a report of heavy injury to the young corn plants in a field on heavy soil by the wireworm Melanotus fissilis Say. Wireworms of an unidentified species were reported destroying celery plants in Lincoln County. These reports were received during the second and third weeks in June.

Minnesota — A. G. Ruggles (June 13): Wireworms have been reported from a number of localities, but we have been unable to study the problem and hence do not know the species.

Louisiana — T. E. Holloway (May 25): At the plantation near Morgan City where wireworms were seriously injuring sugarcane last year, scarcely a wireworm is now to be found. It is evident that they have transformed to adults, some cast skins having been found in the soil and a few click beetles collected.

WHEAT WIREWORM (Agriotes mancus Say)

New York — P. J. Chapman (May 31): Practically an entire field of sprouting corn was destroyed at Skaneateles.

EASTERN FIELD WIREWORM (Limonius agonus Say)

Connecticut — W. E. Britton (June 8): I write to report a serious situation in the tobacco fields of this State where much injury is being caused by wireworms. In my experience of 31 years in the State, I have never known anything so extensive. We visited one plantation yesterday where 84 acres of tobacco are grown under cloth. About 50 acres of this has been ruined by wireworms and some of it has been reset twice. The wireworms are now injuring the third set of plants. Most of this land has been in tobacco for many years, though occasionally it is seeded and allowed to be in sod for two or three years. Some of it at least has had a cover crop of timothy during the winter, the grass being plowed under in the spring.

We have reports of 10 or a dozen growers where considerable injury has been caused, but the one mentioned is perhaps the worst case. Altogether, thousands of dollars damage has resulted. We expec to carry out some experiments with carbon-disulfide emulsion and with cyanide. (See also under tobacco.)

A BUG (Galgupha sp.)

Mississippi — R. W. Harned (June 22): A correspondent at Carlisle, in Claiborne County, sent in specimens on May 22 with the statement, "They are coming out of my neighbor's meadow by the millions for a distance of several hundred yards, and have been crossing the road for several days. We can not see that they are destroying anything yet." Specimens were determined by W. L. McAtee as Galgupha sp., all nymphs.

CEREAL AND FORAGE-CROP INSECTS

WHEAT

CHINCH BUG (Blissus leucopterus Say)

Illinois — W. P. Flint (June 18): Less than one-fourth of an inch of rain fell during May in most of the central and south-central Illinois Counties. The rainfall was also light during the first week in June, giving ideal conditions for the chinch bug to multiply in the area where it was nearly cleaned out last year. A few fields in the south-central counties in this State now show a moderately heavy infestation by chinch bugs. If the weather continues dry for the remainder of the summer, the insect will undoubtedly increase to a point where it will again be a serious menace.

Missouri — L. Haseman (June 25): In spite of the scarcity of the bugs last year and the severity of the winter, chinch bugs are causing some damage in scattered localities, particularly in the territory south of the Missouri River and west of Central Missouri. Their migration at this time from wheat to corn is on.

Arkansas — Dwight Isely (June 20): During the past week there has been considerable complaint of chinch bug injury to corn and sorghum in northwestern Arkansas.

W. J. Baerg (June 25): Chinch bug injury reported from Crittenden, Craighead, and Carroll Counties. This is the first important outbreak since 1914. Injury is severe over small areas.

Mississippi — R. W. Harned (June 22): Chinch bugs are causing more damage in this State than at any time during the last 18 years. During 1910 many complaints were received in regard to chinch bugs, but they were not as serious then as now. They are most serious in the Yazoo-Mississippi Delta section of the State, but some complaints have been received from all parts of Mississippi. Corn is the chief crop that is being injured.

Louisiana — W. E. Hinds (June 15): I wish to report that the chinch bug is appearing ar und Baton Rouge this season in unusual numbers and is causing some damage to cane and corn particularly. I have a complaint of the pest also from Winnsboro, where they attack oats and then move to sorghum and cane.

South Dakota — H. C. Severin (June 25): The chinch bug outbreak that struck South Dakota a few years ago has abated. We do not expect any trouble from chinch bugs this year.

Nebraska — M. H. Swenk (May 25-June 25): The dry weather of the month of May gave a great impetus to the already serious aspect of the infestation of our wheat and other small grains by chinch bugs, and they increased alarmingly in the infested area outlined in my report of May 25. They also became menacingly abundant in many fields northward through Lancaster County into southern Saunders County, and over a larger portion of western Otoe County than we had outlined on May 25. Heavy, beating rains in early June enormously reduced the numbers of the bugs over a considerable portion of the infested area. For example, in some fields in eastern and southern Johnson County, on June 19, the bugs were found to have been reduced 50 per cent or more as compared with their abundance in the same field ten days earlier. The bugs began moving in Lancaster and Saunders Counties on June 20 and during the last five days numerous reports of heavy migrations and losses of corn have been received. In spite of the heavy mortality among the bugs in many localities during early June, because of the beating rains, there will undoubtedly be heavy losses in many fields throughout the infested area.

Kansas — J. W. McColloch (June 21): Harvest has been early this year and the migration to the corn and sorghum fields has been on since June 5. The first adults of the new brood are now beginning to appear. It is difficult to estimate the damage to wheat by this insect. In some cases parts of fields have been killed. There will also be much shriveled grain. Many farmers are using barriers this year.

HESSIAN FLY (Phytophaga destructor Say)

Indiana — J. J. Davis (June 24): No counts have been made but reports and observations of fallen wheat indicate abundance of the Hessian fly from the fall brood.

Illinois — W. P. Flint (June 18): Later examinations by S. C. Chandler, covering a wider range of the southern Illinois counties, have shown this insect to be of little importance this spring in the Counties of Washington and Clinton. In the central and north-central parts of the State the infestation runs about as reported in the last number of the Survey. The weather has remained so dry that there was no indication of a supplementary spring generation. Wheat cutting is now in progress and it seems evident that there will be only the main generation during the present spring.

Nebraska — M. H. Swenk (May 25-June 25): The puparia of the main (or first) spring brood of the Hessian fly that were formed during the last half of May did not give forth as heavy a supplementary (or second) spring brood as it was feared they might produce at the time of my last report on May 25. Probably 30 to 40 per cent of these puparia gave forth their flies during June, mostly in fields that had been already badly damaged or ruined by the maggots of the main (or first) brood. As to the distribution of the injury, there is little to add to the statement made in my report of May 25 except that some

damage occurred in parts of southern Douglas, southeastern Saunders, and southern Gage Counties, where the county agents had secured but poor cooperation in their campaign to delay the sowing of the winter wheat until the announced safe date. Also the principal area of infestation, reported on May 25 as including western Clay, eastern Adams, and southeastern Hall Counties, later proved to extend west into western Kearney County and northeast to southern Merrick County.

ansas — J. W. McColloch (June 21): A heavy infestation of the fly occurs over most of the wheat area of the State. A trip made over a large part of the wheat area on June 1 showed the infestation running from 10 to 50 per cent of the culms. At Manhattan 25 per cent of the straw went down before harvest.

orth Dakota and Montana — C. N. Ainslie (June 16): The Hessian fly area in western North Dakota and eastern Montana has been gone over recently. The abnormal weather has played an important part in the control of this pest this spring. A few warm days in late April and early May permitted a moderate infestation of very early sown spring wheat. Since then cool days and abundant wind have largely prevented further oviposition. The fly can be found in practically every field in the semiarid region but a light attack is expected this season. A few early-sown fields have many plants injured by the fly but timely and abundant rains have enabled crippled plants to rally.

WHEAT STEM MAGGOT (Meromyza americana Fitch)

ebraska — M. H. Swenk (May 25-June 25): The wheat stem maggot has shown up in the wheat fields over about the eastern half of the State during the present month in sufficient abundance to do serious injury in some fields. From Chase County there has come a report under date of June 17 of the destruction of about 15 acres of wheat in a field of 115 acres by the western wheat-stem maggot, Pegomya cerealis Gillette.

MEADOW PLANT BUG (Miris dolobratus L.)

ndiana — C. R. Cleveland (May 29): This species was found in large numbers on wheat in band 20 to 30 feet wide. One edge of field which lies along pasture swale heavily grown to grass, which was not cut, eaten off or burned last fall. Severe drought has caused natural host (grass) to dry up and bugs have moved to more succulent wheat. Heads just formed and bugs are starting to feed on them.

CLOVER MITE (Bryobia praetiosa Koch)

ebraska — M. H. Swenk (May 1-25): From Cheyenne County was reported a wheat field in which the clover mite was swarming by the millions during the first week in May and causing the wheat to wither and dry out in spots through the field. This is our first report of the clover mite proving injurious in that way.

WHEAT STRAWWORM (Harmolita grandis Riley)

Kansas — J. W. McColloch (June 21): Wheat infested by this insect has been received from Great Bend, Hays, and Copeland. At Manhattan some fields have 10 per cent of the straw infested.

JOINTWORM (Harmolita tritici Fitch)

Missouri — L. Haseman (June 25): An unusually severe outbreak of joinworms seems to have appeared in the wheat this year. The heaviest infestations are in the territory comprising the southeastern quarter of the State.

GREAT PLAINS FALSE WIREWORM (Eleodes opaca Say)

Kansas — J. W. McColloch (June 6): Last week I covered most of western Kansas by auto. Adults of the false wireworms were everywhere abundant in the wheat fields; in fact, I never saw the beetles as abundant as they are this year.

WHEAT STEM MAGGOT (Oscinis spp.)

Missouri — L. Haseman (June 25): Several complaints during the middle of the month were received regarding the whitening of the heads of the wheat owing to the work of one of these little maggots. From the complaints the pest seems to be about normal in abundance.

CORN

CORN EARWORM (Heliothis obsoleta Fab.)

Georgia — O. I. Snapp (June 12): Unusually abundant at Fort Valley at the present time. Reports from Montezuma also indicate a heavy infestation there in sweet corn.

Mississippi — R. W. Harned (June 22): Heliothis obsoleta has been received from every section of the State. Most of the complaints have been in regard to it as the tomato fruitworm. Now more complaints are being received about it as the bollworm of cotton. A few complaints about it as a corn pest have also been received.

STALK BORER (Papaipema nitela Guen.)

Ohio — H. A. Gossard (June 23): The common stalk borer was received from Stockport, Portsmouth, Lisbon, Perrysville, Mansfield, and Alger. A large number of specimens from all over the State have been brought into my office, indicating that it is very generally distributed and very numerous over the entire State. In many cases considerable replanting will have to be done and perhaps in some cases substitute crops will be planted because of the great thinning out of the corn due to this pest.

Indiana — J. J. Davis (June 24): Unusually abundant this year. Definite reports with specimens have been received from the following Counties: Wabash, Wells, Blackford, Delaware, Warren, Hendricks, Shelby, Union, Daviess, and Lawrence.

Illinois — W. P. Flint (June 18): The common stalk borer is much more destructive than usual and a number of fields on bottom lands have been severely injured in some cases, necessitating the replanting of the entire field. This is unusual as the insect usually confines its attack to field margins or low points in the field where a heavy weed growth has been permitted the previous season.

Missouri — L. Haseman (June 25): This insect is more abundant this year than it has been in a great many years and in some cornfields planted on newly plowed bottom pasture or waste land they have completely destroyed the first planting. From various sections of the State reports have been received showing damage to corn and vegetable crops.

Nebraska — M. H. Swenk (May 25-June 25): Complaints of injury by the stalk borer continued through June and up to the date of this report. Some cornfields apparently have been quite seriously damaged. The injury has been confined to the eastern one-third of the State.

ARMYWORM (Cirphis unipuncta Haw.)

New York — H. C. Huckett (June 13): Found feeding in noticeable numbers in a hay field at Calverton.

E. P. Felt (June 26): Armyworms are reported as very abundant in grass and grain fields in Orient, by L. H. Latham.

Ohio — H. A. Gossard (June 23): Armyworm specimens were received June 17 from Akron, where they were doing damage to corn.

Indiana — J. J. Davis (June 24): Abundant June 12 at Marion.

Illinois — W. P. Flint (June 18): Only a few scattered cases of injury by first-generation larvae have been reported.

SOD WEBWORMS (Crambus sp.)

Ohio — Herbert Osborn (May 28): I have had reports of work in cornfields planted on sod ground which is very evidently due to one of the sod webworms, but specimens have not been received for identification.

H. A. Gossard (June 23): Sod webworms were received from Irwin, Celina, and Columbiana, in all cases attacking corn. One of my assistants, in reporting an investigation of webworm damage in northwestern Ohio, says that this damage did not occur in fields that had been in grass the preceding year. One field consisting of 30 acres now in corn was in corn last year. The field was kept very clean of plant and weedy growth of every kind last year and there was no weedy growth during the fall after the corn crop was removed, yet out of 100 consecutive hills examined in this field 94 showed injury by webworms. The damage to the field was estimated at about 70 per cent. This field ordinarily passes through a 4-year rotation, consisting of corn, oats, wheat, and clover, but this year corn followed corn. Another 30-acre field adjoining this was in clover last year and this year was

put to corn. This field has an almost perfect stand of corn that is growing very nicely. Only occasionally can a stalk be found showing injury. Another field was last year in barley, with which sweet clover had been sowed. This field was plowed up in April. The loss from sod webworm injury is at least 50 per cent and under date of June 19 these crambid larvae were feeding on the replant, which was just coming up. A considerable number of fields, some of them 50 acres or more, within a radius of 20 or 30 miles of Toledo, have been completely destroyed by sod webworms and must either be replanted to corn or to other crops.

T. H. Parks (June 17): Specimens with reports of severe damage have been coming in from many sections of the State.

BILLBUGS (Calendra spp.)

Mississippi — R. W. Harned (June 22): On June 13 a farmer at Oak Ridge, Warren County, sent several specimens of Calendra with the statement that they had caused a lot of trouble in corn in the northeastern part of that county.

Missouri — L. Haseman (June 25): Two species of billbugs, Calendra callosa Oliv. and C. destructor Chttn., have been reported as seriously damaging bottom corn from a number of widely separated sections of the State. It is appearing mostly on corn where wild grasses and sedges were abundant last year. Identified by Satterthwait.

MAIZE BILLBUG (Calendra maidis Chttn.)

Kansas — J. W. McColloch (June 21): At Hunnewell a 60-acre field of corn was destroyed. A report from McPherson County says the beetles have destroyed several acres of corn. A field at Ogden has been replanted three times owing to this beetle. A general infestation in a number of fields at Junction City has necessitated much replanting.

TWELVE-SPOTTED CUCUMBER BEETLE (Diabrotica 12-punctata Fab.)

Louisiana — W. E. Hinds (May 28): The 12-spotted cucumber beetle has been exceedingly abundant following a very mild winter and considerable damage has been done to stands of corn and other crops attacked by them.

BANDED FLEA-BEETLE (Systena taeniata Say)

Ohio — T. H. Parks (June 17): Isolated but serious injury is being done by these adults to growing corn over a large part of the State. Most complaints come from northwestern counties. The county agent of Shelby County writes, "There is a 20-acre field of corn that is so badly infested that the corn will be destroyed within a few days."

CORN ROOT APHID (Anuraphis maidi-radicis Forbes)

Nebraska — M. H. Swenk (May 25-June 25): Injury in several cornfields in the vicinity of Loup City by the corn root aphid was encountered on June 10.

Kansas — J. W. McColloch (June 21): This insect has been received from Denison and Ogden with the information that it is causing considerable loss to corn.

SUGARCANE BEETLE (Euetheola rugiceps Lec.)

Mississippi — R. W. Harned (June 22): The sugarcane beetle has been received from many parts of the State. They have been reported chiefly as injurious to corn but a few complaints about their attacks on sugarcane have been received.

A FALSE CHINCH BUG (Nysius sp., probably ericae Schill.)

Mississippi — R. W. Harned (June 22): Nysius sp. (probably ericae) was reported as causing serious injury to corn in Claiborne County on June 5. A correspondent who sent specimens wrote, "They are in a field of corn, planted on May 10, by the millions. They cover the stalks and blades and suck the life from them. They leave millions of little black specks on the blades that must be eggs." These insects were determined by Dr. H. H. Knight, of Iowa State College, as belonging to the genus Nysius, probably ericae.

ALFALFA AND CLOVER

PEA APHID (Illinoia pisi Kalt.)

Wisconsin — J. E. Dudley, Jr. (June 7): Infestation is extremely scarce at Columbus, some fields showing none per five sweeps of a net, others three to five per five sweeps. Much less abundant than last year at this time and in the ordinary year. An early and severe infestation occurred in certain parts of Jefferson County but was exterminated by parasites. Both adults and larvae of cocinellids are conspicuous in fields but food is extremely scarce. Syrphids are scarce.

Nebraska — M. H. Swenk (May 1-25): In Dawson County about the middle of May several fields of alfalfa were reported as having been badly injured by the pea aphid. A great abundance of the ladybirds Hippodamia convergens Guer. and Megilla fuscilabris Muls. helped to bring this outbreak under control, and similar reports were not received from elsewhere in the State.

ALFALFA LOOPER (Autographa californica Speyer)

Washington — E. J. Newcomer (June 13): Report of horticultural inspector at Linville states, "We have one field of alfalfa of which the first cutting has been taken off before these worms got started, but the worms are keeping the second growth eaten to the ground and not giving it a chance to grow." (June 16): Working primarily in alfalfa and when this is cut it migrates and attacks lettuce, beans, potatoes, and corn.

ALFALFA WEEVIL (Phytonomus posticus Gyll.)

Oregon — B. G. Thompson (May 20): At Ontario, Malheur County, adults emerged and started laying eggs. Later cold weather checked egg laying and development. From one-half to full-grown larvae and numerous eggs were present on this date.

CLOVER LEAF WEEVIL (Hypera punctata Fab.)

Delaware — C. O. Houghton (May 5): Quite common in northern Delaware this year. A 20-acre field of clover near Newport was so badly damaged that we advised plowing under the crop.

Wisconsin — J. E. Dudley, Jr. (June 7): Infestation is much heavier than the last two years and probably heavier than in the normal year. Swept from 1½ acres of alfalfa with aphidozer 3,000 larvae and 350 pentatomids of three species apparently preying on weevil larvae. Possibility of severe damage before first crop is cut.

A NEMATODE (Cephalobus elongatus DeMan.)

Nebraska — M. H. Swenk (May 1-25): Two reports of injury by the nematode Cephalobus elongatus to alfalfa plants were received during May.

CLOVER BUD WEEVIL (Phytonomus nigrirostris Fab.)

Illinois — W. P. Flint (June 18): Examinations by J. H. Bigger show that in many fields in western Illinois this insect destroyed from 25 to nearly 50 per cent of the clover heads. The same condition holds for all points in central and south-central Illinois where examinations have been made. The insect is now largely in the adult stage.

CLOVER APHID (Anuraphis bakeri Cowan)

Arkansas — A. J. Ackerman (June 4): The county agent of Benton County reports clover fields throughout the county badly injured, presumably by the clover aphid. Some fields almost entirely killed on this date.

SOYBEANS AND COWPEAS

CLOVER ROOT CURCULIO (Sitona hispidulus Fab.)

Indiana — J. J. Davis (June 24): Adults reported damaging soybeans at Frankfort June 17. Because of the fact that much clover sod was in bad shape this spring, many fields were plowed under and planted to soybeans. This very likely will result in considerable damage to soybeans by Sitones.

Illinois — W. P. Flint (June 18): Adults of the clover sitona, in most cases Sitones hispidulus, have been reported from a number of localities causing injury to soybeans where soybeans have been planted on spring-plowed clover sod.

BLISTER BEETLES (Meloidae)

Louisiana — W. E. Hinds (May 28): The blister beetles are now becoming abundant and attacking soybeans particularly.

GRASS

LEPIDOPTEROUS LARVA (Pseudanaphora arcanella Clem.)

Louisiana — Insect Pest Survey Bulletin, Vol. 5, No. 2, page 83, May 1 number, gives an account of a lepidopterous larva injuring lawns, pastures, and golf greens. This was reared by W. E. Haley and has been determined by Dr. Dyar as Pseudonaphora arcanella Clem.

F R U I T I N S E C T S

APPLE

APHIDIDAE

Massachusetts — A. I. Bourne (May 26): Aphids have proven to be much less a pest than we were led to expect by conditions during the early season. Even in orchards where no particular attention was given to their control, they have very largely disappeared. The aphids hatched earlier than we have noted for several years so that the oil sprays found them very largely all hatched and clustered on the buds.

Rhode Island — A. E. Stene (June 20): Plant lice on fruit trees were abundant early in the season but cold weather and rains apparently suppressed them.

GREEN APPLE APHID (Anhis pomi DeG.)

New York — C. R. Crosby and assistants (June 6): At Honeoye Falls 2-year-old apple trees were attacked by this insect in sufficient numbers to warrant the application of control measures.

Ohio — H. A. Gossard (June 23): Aphis pomi was received on apple from Painesville June 2, also June 4, and from North Benton on June 10. By June 18 this species had migrated from apple trees at Wooster so that it was practically impossible to find further specimens.

APPLE GRAIN APHID (Rhopalosiphum prunifoliae Fitch)

New York — C. R. Crosby and assistants (May 23): At this date in Ulster County practically all have migrated from apple.

Wisconsin — A. A. Granovsky (June 9): The common apple grain aphid was very abundant all over Door County on apples. Many orchardists went to a considerable expense in spraying with nicotine sulfate. Considerable curling of leaves was observed. At this time most of them have disappeared from apple foliage.

ROSY APPLE APHID (Anuraphis roseus Baker)

New York — C. R. Crosby and assistants: On May 23 colonies of this aphid were frequently found on Greening trees in Ontario County. Multiplication has been rapid, while in Ulster County on this date it did not seem to be multiplying to any great extent. In Dutchess County on May 23 this insect was increasing in numbers in many orchards. Up to this time it was thought that little injury would result from this pest. In Wayne County where nicotine sulfate was omitted from the delayed-dormant spray a moderate amount of curled leaves due to this insect was present, and in Onondaga County while scattering infestations were found in many orchards the damage up to June 6 is not serious. The aphids are quite abundant in several orchards where nicotine was left out of the delayed-dormant spray in Genesee County.

Ohio — H. A. Gossard (June 23): The rosy apple aphid was received June 2 from Bradford and June 10 from North Benton; in both cases on apple.

Oregon — Don C. Mote: Exceedingly heavy infestation in unsprayed orchards.

CODLING MOTH (Carpocapsa pomonella L.)

Massachusetts — A. I. Bourne (May 26): During the week beginning the 18th and running through the early part of the present week, throughout the main apple growing section of the State orchardists have been giving their whole attention to the application of the calyx or "petal-fall" spray. It may be interesting to note, as touching on the difference in altitude and climatic conditions existing in this State, that in the Nashoba district in northern Worcester County and western Middlesex, on the 20th of this month, we found conditions just right for the calyx spray. However, in the region around Gardner, Winchendon, and Athol on the 21st, we found apples in full bloom, a difference of more than four days between those points.

Indiana — B. A. Porter (June 20): First-brood larvae began leaving the fruit June 9. During the period when the greatest numbers of moths were active the weather was very hot and dry, suggesting that we are likely to have a severe infestation of the codling moth this season. Observations in the orchards thus far have indicated the same thing.

Illinois — W. P. Flint (June 18): Second-brood codling moth will start emerging in southern Illinois about July 1. Present indications are that there will be a rather heavy second generation.

Missouri — L. Haseman (June 25): The codling moth in central Missouri arrived about on schedule time in spite of the fact that the season brought out the apple blossoms ten days to two weeks earlier than usual. The larvae of the first generation are now maturing and leaving the apples and we shall probably have the adults of the second generation emerging about on schedule time for central Missouri, namely, between the seventh and fifteenth of July.

Arkansas — A. J. Ackerman (June 1): A few wormy apples have been found in most orchards at Bentonville by June 1. The first brood hatched in large numbers earlier than usual, 30 per cent first-brood moths had appeared by May 1, and the earliest worms in fruit were found April 30. Some worms were leaving the fruit the last of May, and pupae were noted June 1. Some second-brood worms may be expected as early as June 20, about two weeks sooner than normal. Three cover sprays for the first brood have held the insect in check to date.

Oregon — B. G. Thompson (May 20): Adults emerging, about 10 per cent emerged to date. Apparently too cool for egg deposition.

ERMINE MOTH (Hyponomenta malinellus Zell.)

New York — P. M. Eastman (June 16): Inspection of about 3,000 apple seedlings imported from France last winter was made today and 24 ermine moth nests found. The larvae were very much alive, and could have caused considerable damage if not found in time.

FRUIT TREE LEAF ROLLER (Cacoecia argyrospila Walk.)

New York — C. R. Crosby and assisterts: In Onondaga County, on May 23, injury from this pest was quite slight. By May 30 in Orleans County the pest was much more abundant, being found in considerable numbers where they have not caused any material damage before, and by June 6 they were numerous in one section of Genesee County.

Michigan — R. H. Pettit (June 16): The fruit tree leaf roller is gaining ground rather rapidly in Michigan.

Montana — J. R. Parker (May 20): The fruit tree leaf roller continues to be a serious pest in the Bitter Root Valley. Severe winter conditions which killed many varieties of apple and injured native pines failed to injure eggs of the leaf roller and there is a normal hatch.

PISTOL CASE BEARER (Coleophora malivorella Riley)

Massachusetts — A. I. Bourne (May 26): Pistol case bearers are present in average abundance.

New York — C. R. Crosby and assistants: In Monroe County this pest was much more abundant this year than last. In many orchards that were not sprayed prior to blossoming in Niagara County severe infestations have occurred, the first since 1909. Not only are the leaves severely mined but the larval work on the fruit is quite severe.

CIGAR CASE BEARER (Coleophora fletcherella Fernald)

New York — C. R. Crosby and assistants: In Monroe County this pest is much more abundant this year than last. It may be found quite frequently even in well-cared-for orchards, and is doing considerable damage in a number of poorly-cared-for orchards. In Onondaga County considerable damage was found in certain pear orchards, and in many orchards that were not sprayed prior to blossoming in Niagara County severe infestations have occurred, the first since 1909.

APPLE AND THORN SKELETONIZER (Hemerophila pariana Clerck)

Massachusetts — A. I. Bourne (June 22): By June 15 I noted in some of the trees immediately outside the college planting that the apple and thorn skeletonizer larvae were beginning to pupate.

New York — C. R. Crosby and assistants: A trace of injury was noticed in one orchard in Dutchess County. Apparently this insect is of only minor importance; slight damage is found in Greene County especially where the calyx spray was omitted. By close examination in Columbia County evidences of the infestation can be found, but it is by no means an important problem this season.

CLIMBING CUTWORMS (Xylina spp.)

Ohio — H. A. Gossard (June 23): Climbing green cutworms were received from Johnstown June 20. The damage in the orchard was reported to be considerable.

RED BANDED LEAF ROLLER (Eulia velutinana Walk.)

Virginia — Virginia Crop Pest Commission (May 30): The spring brood of moths was unusually large in late March and early April at Winchester. The first brood of larvae are feeding on the foliage mostly, and are more abundant than has been observed at this time of the year during the last four seasons.

Indiana — B. A. Porter (June 20): This species is present in small numbers in most of the orchards in this section (Vincennes). In one orchard the injury has amounted already to 20 per cent of the fruit on the trees, although much of the injured fruit has since been removed in thinning. Where the apples were hanging in clusters

as many as 4 apples were ruined by the feeding of one worm. At present writing the first brood of worms has almost entirely disappeared, and the second is not yet in evidence. The worms seem to be rather heavily parasitized; five different species of parasites have been noticed.

TENT CATERPILLAR (Malacosoma americana Fab.)

GENERAL STATEMENT — J. V. Schaffner, Jr. (June 2) Hatching began in the vicinity of Boston about April 6. Reports received as follows: Medium to heavy infestations reported in many towns through eastern Massachusetts, also from Fitchburg, Colrain, and Deerfield; Ancram, Austerlitz, Chatham, Gallatin, and Pine Plains, N. Y.; Rupert and Pawlet, Vt.; Princeton, Piscataway, and Hillsboro Townships, N. J. General infestation with occasional reports of their being plentiful in the vicinity of Bucksport, Bath, and Manchester, Me.; Milford, N. H.; Cambridge and Hebron, N. Y., and Thetford and Barre, Vt.

Massachusetts — A. I. Bourne (June 22): The tent caterpillar in practically every section of the State proved, throughout the period of larval feeding, to be more abundant even than last year. This was particularly noticeable throughout the western half of the State. About the first of June, here at the College (Amherst), we began to find the larvae maturing and for the last week or ten days the larvae have been deserting the trees and seeking quarters for spinning their cocoons.

Rhode Island — A. E. Stene (June 20): We have had a little more than the average occurrence of the apple tent caterpillar.

Delaware — C. O. Houghton (May): This species is much less abundant at Newark than during the last two years.

West Virginia — F. E. Brooks (June 22): Tent caterpillars have been on the decrease in West Virginia for several years. Not a single tent has been observed in the central part of the State this spring.

New Mexico — J. R. Douglas (May 24): The tent caterpillars are more abundant over the Manzano Mountains at present than this time last season. Their tents are very noticeable on wild cherry and wild plum throughout the Manzano Range.

SPRING CANKERWORM (Paleacrita vernata Peck):

Maine — E. M. Patch (June 8): Apple trees are reported defoliated in the town of Turner.

New York — C. R. Crosby and assistants: Considerable of a block of fruit trees were defoliated in Orange County, it being very serious in unsprayed orchards in Orleans County, while in Genesee County many neglected orchards are being defoliated. In Ontario County serious injury is occurring in some unsprayed orchards. In Monroe County this insect is doing considerable damage in a number of poorly-cared-for orchards.

New Jersey — J. V. Schaffner, Jr. (June 2): Reported as fairly abundant on various deciduous trees in Morristown.

Ohio — H. A. Gossard (June 23): Specimens of apple received from northeastern Ohio defoliated by cankerworms, I am unable to say whether the spring or fall species. Eggs of the fall species were received from Everett May 12 and from Willoughby May 15. The parties bringing in the defoliated branches reported that many orchards in northeastern Ohio had suffered in this manner. However, since this happens practically every spring in northeastern Ohio, I am not able to say at this time that conditions are any worse than in ordinary years.

Minnesota — A. G. Ruggles (June 13): The fall cankerworm has been as serious as ever in certain regions of the State. Instead of there being a marked decrease in these insects over a series of years they seem to have steadily held their own for the last five or six years.

LESSER APPLE WORM (Laspeyresia prunivora Walsh)

Arkansas — A. J. Ackerman (June 1): Several growers in the Springdale section report apples more severely infested with the lesser apple worm than with the codling moth by June 1. Specimens brought to the Bentonville Laboratory proved the pest actually to be the lesser apple worm. Although injury by this insect is occasionally noted every year, this is the first report of injury by the lesser apple worm in sprayed orchards of the Ozarks in recent years.

APPLE RED BUG (Heterocordylus malinus Reut.)

Massachusetts — A. I. Bourne (May 26): No complaints have come in to us of any abundance of the red bug, and in my personal observations thus far during the season I have found scarcely any evidence of its presence. It can not, therefore, be present in any abundance except possibly in some isolated and uncared-for orchards.

New York — C. R. Crosby and assistants: In Genesee and Wyoming Counties this insect is so numerous in several orchards that control measures had to be used, while in Ontario County evidence of their work has been found quite general, although up to May 23 no serious infestation has been observed.

POTATO LEAFHOPPER (Empoasca falve Harr.)

Arkansas — A. J. Ackerman (June 5): The potato leafhopper is more numerous than last season. Some hopperburn has been noticed on potatoes and terminal growth of apple. Ordinarily this leafhopper does not cause much injury to potatoes here as only the first brood of nymphs attack the plants, potatoes being mature before the second brood appears. First-brood nymphs were present during the last three weeks of May and first-brood adults began to appear June 1.

BUFFALO TREEHOPPER (Ceresa bubalus Fab.)

Indiana — J. J. Davis (June 24): Evidence of treehopper injury on young apple trees is not uncommon. The injury, according to our observations, always predominates in orchards where alfalfa has been grown or where the orchards were in weeds last fall.

OYSTER SHELL SCALE (Lepidosaphes ulmi L.)

Massachusetts — A. I. Bourne (June 22): The oyster shell scale was observed to be hatching here at Amherst from May 26 to 27 on apples and from May 31 to June 2 on lilacs.

SCURFY SCALE (Chionaspis furfura Fitch)

Indiana — J. J. Davis (June 24): There have been a number of reports of scurfy scale abundance on apple in south-central Indiana the past month. They have become more evident because of the abundant white male scales appearing early in June.

APPLE CURCULIO (Tachypterellus quadrigibbus Say)

Ohio — H. A. Gossard (June 23): Apples damaged by the apple curculio were received from Albany June 10 and damaged apples were also received from Newark at about the same date. June 21 we received from Waterville specimens of peaches stung by the curculio and the damage was reported to be quite general in peach orchards of that section.

Kansas — J. W. McColloch (June 21): Considerable damage by this insect is reported from Doniphan, Leavenworth, Atchison, and Wyandotte Counties.

EUROPEAN RED MITE (Paratetranychus pilosus C. & F.)

Massachusetts — A. I. Bourne (June 22): From all the reports that I have been able to secure on the European red mite, this is much less abundant than was the case last year and this condition is very general all over the State.

New York — C. R. Crosby and assistants: In one or two orchards in Monroe County this pest has been found in large numbers attacking apple.

Ohio — H. A. Gossard (June 23): The European red spider mite was received from Willoughby June 6 on apple.

PEAR

PEAR PSYLLA (Psylla pyricola Foerst.)

New York — C. R. Crosby and assistants: Moderate infestations have occurred in unsprayed orchards in Genesee County. Indications are that the psylla will become quite generally serious in Monroe County

with favorable conditions. In one or two orchards in Onondaga County a heavy infestation of this pest occurred. The second brood of psylla is coming on and indications are that it will become a serious problem in a number of poorly sprayed orchards in Columbia County, while in Yates County this insect is to be found in injurious numbers in several orchards.

PEAR MIDGE (Contarinia pyrivora Riley)

Massachusetts — A. I. Bourne (June 22): Several complaints. In one case some of the county workers estimated fully 50 per cent of the fruit to be infested. These complaints came in to us during the first half of the month. Clapp's Favorite and Beurre Bosc are the two varieties which have been reported as being infested the worst.

New York — C. R. Crosby and assistants: During the last week in May and the first week in June more or less serious infestations of pears by this insect were reported from Genesee, Columbia, and Dutchess Counties.

PEACH

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

West Virginia — Fred E. Brooks (June 22): Plum and peach crop in this locality (French Creek) a failure, but a slight amount of curculio injury has been done to apples.

NEW YORK WEEVIL (Ithycerus noveboracensis Forst.)

Ohio — H. A. Gossard (June 23): Ithycerus noveboracensis was received from Unionville Center June 2, where it was attacking both peach and apple.

GRASSHOPPERS (Acridiidae)

Mississippi — Oliver I. Snapp (June 2): Grasshopper damage prevalent on peaches at Canton. Very dry weather has been experienced here for several months.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Mississippi — Oliver I. Snapp (June 2): A heavy infestation observed on several trees in a 27,000-tree orchard at Canton on this date. A 2 per cent lubricating-oil emulsion was used, but there were evidences that the emulsion had been used after freezing or in a tank containing lime-sulfur residue. Several peach trees at Madison were killed by using lubricating-oil emulsion in a spray tank containing lime-sulfur residue, which caused free oil to be liberated. Very poor scale control as a result. (June 3): Practically no San Jose scale found in commercial orchards at this point (Moselle). One commercial orchard of 10,000 trees which had been treated with 2 per cent lubricating-oil emulsion last winter was absolutely free of scale. This orchard had previously been lightly infested.

ORIENTAL FRUIT MOTH (Laspeyresia molesta Busck)

Georgia — Oliver I. Snapp and assistants (June 15): Third-generation larvae are now appearing both in the field and in the insectary at Fort Valley. There is a marked overlapping of generations. The infestation at this point covers only about the area infested a year ago which includes the town and the edges of several commercial peach orchards adjoining the city limits.

PEACH TWIG BORER (Anarsia lineatella Zell.)

Oregon — Don C. Mote (May 20): On unsprayed orchards severe damage in certain districts has occurred on prune and peach by the peach and prune twig miner.

California — O. E. Bremner (May): Attacking particularly prunes and peaches in Sonoma County. Damages growth on nonbearing prune trees, severe damage being caused.

GREEN PEACH APHID (Myzus persicae Sulz.)

New York — C. R. Crosby and assistants: During the last week in May and the first week in June this pest was found quite prevalent in Genesee, Ulster, Dutchess, and Columbia Counties.

PEACH BORER (Aegeria exitiosa Say)

Illinois — W. P. Flint (June 18): Larvae of the peach tree borer are unusually abundent in orchards not treated with paradichlorobenzene during the fall of 1924.

SHOT HOLE BORER (Scolytus rugulosus Ratz.)

Mississippi — R. W. Harned (June 22): The fruit tree bark beetle has been received from many counties. Peach, plum, apple, and other fruit trees have been attacked. The extreme drought of the last 12 months has been very hard on trees of all kinds and this probably accounts for conditions being so favorable for these beetles.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Massachusetts — A. I. Bourne (June 22): The plum curculio appeared about ten days or two weeks earlier than was the case last year. At least preliminary indications are that this insect will not be quite as serious a pest as it was for the last several years.

Rhode Island — A. E. Stene (June 20): The plum curculio is also active as indicated by reports from various sections of the State.

Indiana — B. A. Porter (June 20): Began leaving the fruit at least as early as June 1 at Vincennes.

Georgia — Oliver I. Snapp (June 15): The curculio is under excellent control so far this season. Over 1,000 carloads of peaches have moved to market to date practically free of curculio larvae. First-generation adults are now emerging from the soil. Second-generation larvae are to be expected in the Elberta crop which will start to move about July 6.

Kentucky — B.A. Porter (June 20): The plum curculio has been unusually abundant in some orchards this season. The larvae had been maturing and leaving the fruit in peach orchards in western Kentucky a few days before the end of May.

Mississippi — Oliver I. Snapp (June 2-3): Commercial peach orchards at Canton and Moselle very free of curculio injury. Absence of the insect at these two places is attributed to the liquid spraying which had been done according to the schedule and to the very dry season.

CHERRY

FRUIT TREE LEAF BEETLE (Syneta albida Lec.)

Oregon — Mr. Wilcox: All adults disappeared on May 20. Injury apparent on leaves and fruit this date. Unsprayed cherries in certain districts show 60 per cent injury.

CHERRY LEAF BEETLE (Galerucella cavicollis Lec.)

Michigan — R. H. Pettit (June 6): The red cherry leaf beetle is appearing in the northern part of the State and is quite plentiful. This insect is abundant wherever pin cherry grows in quantity and the most of the commercially grown cherries are in cut-over and burned-over districts in the north where pin cherry is very abundant.

DARK CHERRY FRUIT FLY (Rhagoletis fausta O. S.)

New York — C. R. Crosby and assistants: Large numbers of the flies were observed in Onondaga County. Control measures are being used by a number of growers.

BLACK CHERRY APHID (Myzus cerasi Fab.)

Delaware — C. O. Houghton (May 30): Some trees are very heavily infested at Newark this year, a large percentage of the leaves being practically covered on their under surfaces.

Ohio — E. W. Mendenhall (May 27): Sour cherry leaves badly infested with the cherry plant lice, which are doing considerable damage.

Wisconsin — A. A. Granovsky (June 9): The black cherry aphis is present every year in extensive orchard areas of Door County, often causing a considerable injury. At this time we have the third generation of this pest with only slight injury. First and second generations are apterous, the third is developing wings. If weather conditions should be favorable for this insect, it may become serious by the end of the season.

RASPBERRY

RASPBERRY FRUIT WORM (Byturus unicolor Say)

New York — C. R. Crosby and assistants: Quite numerous this season in Ulster County.

Ohio — H. A. Gossard (June 23): On June 8 we received from Kinsman Byturus unicolor attacking raspberry. Other reports unaccompanied by specimens from several quarters indicate that this insect is doing at least as much damage as usual, possibly more.

RASPBERRY SAWFLY (Monophadnoides rubi Harris)

Maine — Edith M. Patch (June 18): These insects have started eating on the young shoots but are now on the bearing canes. They are in many gardens at Yarmouth.

RASPBERRY MAGGOT (Phorbia rubivora Coq.)

Oregon — Don C. Mote: Five shoots infested with the maggot received from Toledo, Oregon.

A SCARABAEID BEETLE (Serica sericea Ill.)

Maine — Edith M. Patch (June 1): Three or four pairs per bush mating, feeding on leaves, of bushes at No. Bucksport.

GRAPE

EIGHT-SPOTTED FORESTER (Alypia octomaculata Fab.)

Delaware — C. O. Houghton (May 29): About the usual number on grape at Newark. I find some of the larvae which have been killed by a fungus or bacterial disease.

ROSE CHAFER (Macrodactylus subspinosus Fab.)

Massachusetts — A. I. Bourne (June 22): The first specimens of the rose chafer made their appearance on June 7 and since that time have been swarming not only over roses and grape, but on a wide range of ornamentals, garden crops, and foliage of young fruit trees.

New York — P. M. Eastman (June 16): Rose chafers are very numerous in the Pine Bush section of Albany, doing considerable damage to young apple trees.

Delaware — C. O. Houghton (May 23): Just beginning to appear at Newark.

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Virginia — Herbert Spencer (May 26): During the week of May 12 to 23 we have had several complaints of damage by the rose chafer. The reports came from the eastern shore district. Roses, grapes, and potatoes seem to be the plants most affected.

W. S. Abbott (June 3): First rose chafer seen on May 30 attacking rose.

West Virginia — Fred E. Brooks (June 22): Somewhat less abundant this season than for several years. Some complaint of injury to sweet cherries and early ripening sweet apples.

Ohio — H. A. Gossard (June 23): A great number of inquiries, unaccompanied by specimens, scattered all over northeastern Ohio have been received during the last month regarding this insect.

Michigan — R. H. Pettit (June 15): The rose chafers are also more numerous than usual this year.

Nebraska — M. H. Swenk (May 25-June 25): The rose chafer has been very numerous in the sandhill country from Loup County to Garden County and north into Cherry County May 28 to June 10. They not only attack roses, grapes, apples, raspberries, and other fruits, but there were several reports of heavy losses of poultry or fowls because of their having eaten these beetles.

GRAPE PLUME MOTH (Oxyptilus periscelidactylus Fitch)

New York — C.R. Crosby and assistants: During the first week in June this insect was reported as unusually prevalent in the southeastern part of the State in Greene, Ulster, and Columbia Counties.

Delaware — C. O. Houghton (May 30): More common than usual at Newark this year.

Ohio — H. A. Gossard (June 23): Received May 29 from Delaware, where it was doing damage to grapes.

GRAPE VINE APHID (Macrosiphum illinoisensis Shim.)

Missouri — L. Haseman (June 25): This species is now quite abundant on young grapes in central Missouri.

GRAPE LEAFHOPPER (Erythroneura comes Say)

Connecticut — B. H. Walden (June 5): At South Glastonoury this insect was attacking grapes. Adults abundant on foliage.

New York — C. R. Crosby and assistants: The adults are very numerous at the present time on plantings examined in Ulster County. A moderate infestation was found in Columbia County on June 6.

alifornia — F. R. Brann (June 2): First generation now in various stages of nymphal development. Good results have been attained in their control with calcium cyanide dust in Tulare County.

GRAPE CURCULIO (Craponius inaequalis Say)

est Virginia — Fred E. Brooks (June 22): A few beetles are present on grape vines, but so far less injury has occurred to the fruit than is usual at this season.

GRAPE ROOTWORM (Fidia viticida Walsh)

ebraska — M. H. Swenk (June 25): The first beetles of the grape rootworm were collected on the grape leaves on the College of Agriculture fruit farm near Union, Cass County, on June 10.

CURRANT

CURRANT APHID (Myzus ribis L.)

aine — E. M. Patch (June 4): Specimens of damaged leaf received from Liberty attacking currants.

ew York — C. R. Crosby and assistants: This insect was attacking currant at Mineola. Specimens were received.

elaware — C. O. Houghton (May): Very abundant at Newark and causing serious injury despite the prevalence of large numbers of ladybird beetles.

hio — E. W. Mondenhall (May 27): Currants in this locality (Columbus) unusually bad with the currant aphid.

IMPORTED CURRANTWORM (Pteronidea ribesi Scop.)

aine — J. V. Schaffner, Jr. (June 26): Pteronus ribesi reported as abundant in Bangor, Hampden, and Franklin on currant and gooseberry.

CRANBERRY

CRANBERRY WEEVIL (Anthonomus suturalis Lec.)

assachusetts — A. I. Bourne (June 22): Mr. Lacroix reports finding the cranberry weevil in about usual abundance. Neither late holding of winter flowage nor resanding has thus far shown any effect on the overwintering adults.

BLACK-HEADED FIREWORM (Rhopobota naevana Huebn.)

assachusetts — A. I. Bourne (June 22): Mr. Lacroix of our cranberry substation at Wareham, reports that the blackhead fireworm started hatching about May 10, which he stated was just about a week or ten days ahead of time. It apparently is somewhat less abundant than normally.

A LEAF BEETLE (Colaspis favosa Say)

Alabama — R. W. Harned (June 22): A letter from H. P. Loding, Mobile, Ala., reads as follows: "Colaspis favosa is doing considerable damage to blueberries; huckleberries, and Azalea indica also being defoliated."

PECAN AND OTHER NUT TREES

PECAN BUDWORM (Proteoteryx bolliana Sling.)

Mississippi — R. W. Harned (June 22): The pecan budworm has been received from Attala, Adams, and Washington Counties.

PHYLLOXERA

Mississippi — R. W. Harned (June 22): Complaints in regard to Phylloxera galls on pecans have been received from a number of places in the State, but chiefly from the western half. Determinations made by A. L. Hamner indicate that Phylloxera caryaecaulis Fitch is the most abundant species, especially in the Delta section of the State. Phylloxera carvae-ren Riley has also been received from the Delta. Phylloxera notabilis Perg. is the most common species on young seedlings. Phylloxera perniciosa Perg. was serious on one property. An undetermined species, probably not described, is most abundant in the eastern part of the State on seedling pecans.

FALL WEBWORM (Hyphantria cunea Drury)

Georgia — Oliver I. Snapp (June 17): Fall webworms were noticed for the first time this season on a pecan tree at Fort Valley today. This insect was noted last year for the first time on this date in middle Georgia. It is usually very common on pecan and persimmon.

A NUT WEEVIL (Balaninus algonquinus Casey)

West Virginia — Fred E. Brooks (June 22): Beetles of this species issued in May and are now abundant on the male catkins of chestnut. Indications are that there will be sufficient beetles to cause a wormy chestnut crop.

WALNUT CURCULIOS (Conotrachelus juglandis Lec. and C. retentus Say)

West Virginia — Fred E. Brooks (June 22): The above-mentioned curculios are attacking young nuts of the butternut and black walnut and causing a rather heavy drop.

CITRUS

RED SPIDER (Tetranychus citri McGregor)

California — A. E. Bottell (May 22): At Riverside this insect is attacking citrus, heavy damage being done.

GREEN APPLE APHID (Aphis pomi DeG.)

Florida — J. R. Watson (June 16): The green apple aphid (Aphis pomi DeG.), which has been extremely destructive in citrus groves for the last two springs, has been largely brought under control by fungi, chiefly Empusa, due to the advent of the rainy season. The damage to the citrus has been severe, covering practically the entire citrus belt, with the exception of the Satsuma belt in the north.

CITRUS THRIPS (Scirtothrips citri Moult.)

California — E. A. McGregor (May and June): This report records the progress made to date by the pest in the Lindsay-Porterville district. Owing to a warm period in March it appeared for awhile as if injury by the citrus thrips was to become severe during the 1925 season. Subsequent adverse conditions have greatly retarded development and increase with the results that at present the outlook is for a very mild occurrence and for a low percentage of injured fruits. Occasional groves are seen where scarring will occur. Attacking oranges, lemon, grapefruit, pomegranate, grape, plum, and others.

PERSIMMON PSYLLID (Trioza diospyri Ashm.)

Florida — J. R. Watson (June 16): Trioza diospyri Ashm. has been more in evidence than usual this year.

MISCELLANEOUS FEEDERS

PAINTED LADY BUTTERFLY (Vanessa cardui L.)

Iceland — The Evening Star, Washington, D. C. (June 26): C. B. Williams, chief entomologist of the Egyptian Ministry of Agriculture has found that the "painted lady" butterfly has migrated ffom Africa to Iceland on a number of occasions. The distance is over 4,000 miles, and it is usually covered in three to four months. The butterflies show up in Iceland in July, leaving Africa and Asia Minor in April. Only the hardiest among the flyers succeed in making the immigration, however.

SEED CORN MAGGOT (Hylemyia cilicrura Rond.)

New York — C. R. Crosby and assistant: This insect is apparently aiding, together with other agents, the destruction of potato seed pieces in Nassau County.

C. B. Raymond (June 12): A field of early beans was destroyed in Yates County.

Ohio — H. A. Gossard (June 23): The seed corn maggot was received June 8 from Elkton where it was damaging corn.

Wisconsin — E. L. Chambers (June 10): Specimens of Wardwells kidney wax beans were sent in by the Bayfield Canning Company, Bayfield, which were badly infested with Phorbia fusciceps Zett. They reported it as quite a serious loss to their contract fields.

Nebraska — M. H. Swenk (May 1-25): There was a little complaint of injury by Hylemyia fusciceps.

Montana — Stewart Lockwood (June 8): Larva is doing slight damage to young Great Northern bean seedlings.

Oregon — Don C. Mote: The seed corn maggot has appeared this season in destructive numbers in three corners of the State; northwest, northeast, and southeast. It has been attacking beans, wheat, barley, watermelon, cantaloupe, and cucumber seed and the young sprouted plants. Heaviest infestation was observed upon alfalfa sod land and land just recently cleared, although report comes from Lakeview, where the maggot is attacking grain, that the land was in grain last year. However, the soil here is an old lake bed, rich in organic matter - - this spring wet and cold and seed drilled rather deep. Apparently ideal conditions for maggot infestation.

BANDED FLEA BEETLE (Systena taeniata Say)

Ohio — H. A. Gossard (June 23): Systena taeniata was received from Ashland June 17 where it was killing fields of beans, corn, and

potatoes; from Huntsville June 17, attacking corn and potato; and June 18. from Elida, where it was attacking potato.

Indiana — J. J. Davis (June 24): Injury to eggplant by flea beetles (species unknown) was reported April 11 from New Point. Later, beginning May 21 and until June 15, reports of injuries, in all cases by S. taeniata, were received from Shoals on corn; Columbia City on all kinds of garden truck; Albion on potatoes; and Portland, Jay County, on corn. In Jay County the injury was reported as widespread and serious throughout the County on various crops but more especially corn. Injury this year seems to be especially severe in northeastern Indiana. In this section, especially last fall, weeds grew rank because of abundance of moisture.

GARDEN SPRINGTAIL (Sminthurus hortensis Fitch)

Massachusetts — A. I. Bourne (June 22): During late May and early June we noted large numbers of garden springtails present on practically all types of garden crops. The hot, dry weather which prevailed shortly after the first of June apparently caused a considerable reduction in their numbers so that by the 10th they had practically disappeared.

A SPRINGTAIL (Isotoma quadrioculata Tullberg)

Nebraska — M. H. Swenk (May 25-June 25): The Cass County agricultural agent sent a small bottle containing thousands of specimens of a collembolan identified as Isotoma quadrioculata Tullberg, which he said were found covering the ground nearly a quarter of an inch thick in a field after a heavy rain on June 7.

GARDEN SLUGS

California — O. E. Bremner (May): Never in the history of Sonoma County have we had slugs so numerous. They are attacking all garden crops and flowers, lawns, etc. The grasshopper formula using calcium arsenate is effective.

T. D. Urbahns (May 25): Garden slugs are very abundant throughout Sacramento on flowers and vegetables.

MYRIAPODS (symphilids)

Oregon — B. G. Thomson (May 20): Exceedingly abundant on all garden crops in certain localities in Corvallis.

CUTWORMS (Noctuidae)

SEE GENERAL FEEDERS

POTATO AND TOMATO

POTATO BEETLE (Leptinotarsa decemlineata Say)

Georgia — B. L. Boyden (June 8): Colorado potato beetle was doing some damage on a farm in Charlton County.

Iowa and North Dakota — C. N. Ainslie (June 11): After several years of comparative absence of this pest from around Sioux City, Ia., it has appeared in great numbers this spring and compels instant attention to insure the safety of the potato crop. Unusual numbers of adults were observed on the young potato plants in western North Dakota during a recent trip through that region.

Missouri — L. Haseman (June 25): Throughout the State generally this pest has not been so abundant as formerly though on untreated patches the pest is doing considerable damage.

APPLE LEAFHOPPER (Empoasca mali LeB.)

Wisconsin — J. E. Dudley, Jr. (June 12-20): Season about two weeks earlier than usual in Waupaca and Racine Counties. Rainfall slightly below normal; temperature above normal. Heavy rains second week in June. Adults of Empoasca mali are quite abundant although no nymphs have been observed to date. At Racine adults numbered about 4 per plant, and the insect bids fair to become epidemic this year.

TOMATO SUCKFLY (Dicyphus minimus Uhler)

Mississippi — R. W. Harned (June 20): Specimens of the tomato suckfly were collected by R. P. Colmer, our Inspector with headquarters at Moss Point. They were found in large numbers on tomatoes in that vicinity. So far as my personal observation goes, this is the first time that the tomato suckfly has been reported injurious in Mississippi.

STALK BORER (Papaipema nitela Guen.)

Indiana — J. J. Davis (June 3): Larvae are quite small and destroying recently set tomato plants at Elnora.

Wisconsin — E. L. Chambers (June 10): Specimens of infested potato vines were sent in from Sparta by a correspondent who reports it doing serious damage in his garden.

Nebraska — M. H. Swenk (May 25): The first complaint of injury by the stalk borer for the year was received on May 23. The tiny caterpillars were starting to bore in tomato plants in an old cornfield.

BLISTER BEETLES (Meloidae)

Kansas — H. W. McColloch (June 21): Blister beetles are doing serious damage to potatoes and other garden crops in Russell, Rooks, Graham and Dickinson Counties.

CORN EARWORM (Heliothis obsoleta Fab.)

Florida — F. S. Chamberlin (May 27): Abundant and doing severe damage to tomatoes in Gadsden County at the present time.

AUSTRALIAN TOMATO WEEVIL (Listroderes obliquus Gyll.)

Florida — J. E. Graf (June 18): The Australian tomato weevil, now known as Listroderes obliquus (formerly Desiantha nociva Lea), has been reported from Escambia County.

Florida and Alabama — M. M. High (May 19-23): The weevil was found on turnip at the following points: Mobile, Mobile County, Ala. (previously reported); Fair Hope, Baldwin County, Ala.; Brewton, Escambia County, Ala.; Evergreen, Conecuh County, Ala.; Grove Hill, Clarke County, Ala.; Leroy, Washington County, Ala.; and Pensacola, Escambia County, Fla.

Alabama — R. W. Harned (June 22): H. P. Loding, Mobile, writes as follows: "Van Aller has been finding Desiantha nociva in Satsuma groves, possibly on Solanum."

Mississippi — J. E. Graf (June 18): The Australian tomato weevil has been reported from Bay St. Louis and Crystal Spring, Miss.

Louisiana — W. E. Hinds (May 28): The Australian tomato weevil appears to be continuing its spread in this State and will be found as far West as Denham Springs in Livingston Parish, and as far north as Amite and Bogalusa.

J. E. Graf (June 18): The Australian tomato weevil has been reported from Satsuma, Holden, Tickfaw, Independence, Amite, Fluker, Clinton, and Greensburg, La.

C. E. Smith (June 23): The following is the known distribution of Listroderes sp. in Louisiana.

Locality	Parish	Locality	Parish
Ponchatoula	Tangipahoa	Livingston	Livingsto.
Hammond	Tangipahoa	Greensburg	St.Helena
Covington	St. Tammany	Baton Rouge	East Bato. Rouge

A single specimen was collected at Hammond by both Dr. Hinds and Mr. Deen, and one at Ponchatoula, one at Livingston, one at Greensburg, and a single one at Baton Rouge. The species was quite numerous at Covington, in which locality breeding evidently occurred.

MOLE CRICKET (Gryllotalpa hexadactyla Perty)

Ohio — H. A. Gossard (June 23): Gryllotalpa hexadactyla was received from Akron June 1, where it was reported as doing considerable damage to potatoes.

CABBAGE

CABBAGE MAGGOT (Hylemyia brassicae Bouche)

Massachusetts — A. I. Bourne (June 22): The cabbage maggot seems to be about normally abundant. Prof. Koon reports that the growers who are using the corrosive sublimate treatment are thoroughly convinced of its efficacy.

New York — C. R. Crosby and assistants: This insect is doing considerable damage on several unprotected cabbage seed beds in Genesee County. A severe infestation was noticed in several cabbage fields which were about 1/4 grown in Wayne County on June 6.

M. D. Leonard (June 9): Dr. Chupp reports cabbage maggots generally prevalent and destructive to early cabbage in the field in Albany and Schenectady Counties. Many growers are planning to use corrosive sublimate treatment.

C. R. Crosby and assistants: Early cabbage in the field is receiving considerable injury as is late cabbage in the seed bed in Onondaga County. Apparently it is more serious than last year.

Ohio — Eugene Mendenhall (June 5): The cabbage maggot is quite troublesome in the vicinity of Columbus this spring.

H. A. Gossard (June 23): The cabbage maggot has been quite destructiv locally about Wooster. The experimental plots on the Experiment Station Farm were destroyed by the maggots before their presence was discovered and no preventive treatment had been followed from the date of transplanting. From one dozen to thirty or forty maggots could be found on the roots of every plant.

Indiana — J. J. Davis (June 24): Reports of injury to cabbage and radish continued to be received from northern Indiana up to June 1.

Illinois — W. P. Flint (June 18): The cabbage maggot has, according to C. C. Compton, been much more abundant than usual in this State. Severe damage has already occurred in many of the large trucking sections.

Wisconsin — E. L. Chambers (June 10): The cabbage maggot is doing serious damage to radishes, cabbage, and cauliflower. Specimens of injured plants submitted were badly infested.

Oregon — Don C. Mote (May 20): Very abundant and doing considerable damage, according to observations and reports.

CABBAGE APHID (Brevicoryne brassicae L.)

Nebraska — M. H. Swenk (May 25-June 25): The cabbage aphid has been rather more than normally injurious this spring. One extensive growersof cabbage in Boone County has had to report to spraying this year for the first time.

STRIPED FLEA BEETLE (Phyllotreta vittata Fab.)

Illinois — W. P. Flint (June 18): C. C. Compton reports the cabbage flea beetle more abundant than usual this spring, causing severe injury to cabbage and cauliflower seedlings.

ONION THRIPS (Thrips tabaci Lind.)

New York — H. C. Huckett (June 13): Are becoming numerous in the seed bed of cauliflower at Riverhead.

A FLY (Scaptomyza terminalis Loew)

California — T. D. Urbahns (May 21): R. R. McLean from San Diego County reports as follows: "The losses in this district this year due to the attacks of this insect are approximately 20 cars of cauliflower valued at $20,000."

STRAWBERRY

STRAWBERRY CROWN MOTH (Aegeria rutilans Hy. Edw.)

Oregon — B. G. Thomson (May 20): Adults have been emerging for a week or so at Corvallis.

CLIMBING CUTWORMS (Lampra spp.)

Massachusetts — A. I. Bourne (May 26): A complaint from northern Worcester County in Lunenburg has come in of injury to strawberries, both by climbing cutworms and pheasants. The report concerning the pheasants states that they are occasionally finding considerable injury from this source to early garden stuff alongside strawberry beds.

TARNISHED PLANT BUG (Lygus pratensis L.)

Arkansas — A. J. Ackerman (May): The nymphs of the tarnished plant bug caused as much as 40 per cent damage in some fields at Bentonville, by producing buttoning of the berries. Growers report that they have not been troubled with this pest in past years.

A MYRIOPOD

Indiana — J. J. Davis (June 24): Reports of injury to ripening strawberries by a myriopod received from Winamac May 29.

ASPARAGUS

ASPARAGUS BEETLE (Crioceris asparagi L.)

Massachusetts — A. I. Bourne (May 26): The county agent of Bristol County reports the asparagus beetle in that region present and causing considerable injury, beginning about the 15th to the 18th of the month. Mr. Haynes, from southern Worcester County, reports similar abundance and injury on approximately the same date. (June 22): Both species of asparagus beetles are present in about normal abundance, slightly worse than last year, if anything, and we began to note their presence early in June at Amherst.

New York — D. D. Ward (June 13): A 1-acre planting has received very serious injury in Onondaga County.

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

CORRECTION — N. F. Howard (May 25): In the May 1 issue of the Bulletin, Vol.

V. No. 2, page 72, the second line of my report should read "There has not been much activity in hibernation cages."

North Carolina — Franklin Sherman (June 30): The complaints indicate it as worse than usual in our mountains where it has been for several years, also it is causing much worry in the foot-hill section where this is the first year of injury.

Alabama — N. F. Howard (May 25): The first adult was taken in the field at Birmingham March 30, almost three weeks earlier than in 1923 and 1924. At this date over 20 per cent of the beetles in hibernation cages had emerged. The light infestation in this district is undoubtedly due to the small number of beetles entering hibernation last fall on account of the prolonged drought.

BEAN LEAF BEETLE (Cerotoma trifurcata Foerst.)

Ohio — T. H. Parks (June 19): These beetles were common during June in central Ohio (Pickaway County) and eating holes in leaves of young beans grown for canning factory. I have seen serious damage from this insect in the Southern States but its work is rarely noticed in central Ohio.

Illinois — S. C. Chandler (June 12): Injury much less than earlier in the season and beans are looking better at Pulaski, Alexander, Jackson, and Union.

RED SPIDER (Tetranychus telarius L.)

Illinois — S. C. Chandler (June 12): Serious injury in one field at Cairo, with 100 per cent of plants attacked.

LIMA BEAN STEM BORER (Monoptilota pergratialis Hlst.)

Mississippi — R. W. Harned (June 22): Monoptilota pergratialis was found injuring butter beans in Meridian on June 4.

PEAS

PEA APHID (Illinoia pisi Kalt.)

Connecticut — W. E. Britton (June 24): Slight infestation in various parts of State. No particular damage.

Wisconsin — J. E. Dudley, Jr. (June 22): The pea aphid has increased very rapidly during the past week, numbering from 20 to 70 in three sweeps of an insect net up to from 175 to 300 in different fields. From present indications the insect bids fair to do considerable damage to late peas. Season about two weeks earlier than usual; rainfall slightly below normal; temperature above normal. Heavy rains second week in June. Coccinellids are common; syrphid flies are common, and parasites are scarce.

CUCUMBERS

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

Connecticut — R. B. Friend (June 24): This insect has appeared in numbers around

New Haven during the last two weeks on squash, melons, and cucumbers.

Massachusetts — A. I. Bourne (June 22): The striped cucumber beetle is apparently normally abundant.

New York — H. C. Huckett (June 13): Although this insect is generally present it has not been found in as large numbers as in past years.

H. E. Newland (June 13): They are about as abundant as usual this year at Honeoye Falls.

Wisconsin — J. E. Dudley, Jr. (June 20): Probably due to the relatively cool weather in May in Racine County beetles were late in putting in their appearance and, as a result, most of the cucurbits have put out several true leaves and are well beyond danger of being killed outright. The usual gregariousness noticeable in spring and fall is most pronounced at present, the adults congregating in masses of from 10 to 40 on one leaf.

Minnesota — A. G. Ruggles (June 13): The striped cucumber beetle has made its appearance in this State.

Missouri — L. Haseman (June 25): This common pest is attracting attention on melons and related crops throughout the State, though in central Missouri it is less abundant than it was a year ago. However, it is doing serious damage to crops which are now protected with insecticides.

Nebraska — M. H. Swenk (May 25-June 25): About the normal number of reports of injury by the striped cucumber beetle are being received.

TWELVE-SPOTTED CUCUMBER BEETLE (Diabrotica 12-punctata Fab.)

Mississippi — R. W. Harned (June 22): J. A. McLemore, Picayune, reported on May 6: "This pest is doing much damage to crops in and near Picayune, but seems to be worse upon pole beans in the town of Picayune."

Minnesota — A. G. Ruggles (June 13): The spotted cucumber beetle has made its appearance in this State.

PICKLE WORM (Diaphania nitidalis Cramer)

Mississippi — R. W. Harned (June 22): The pickle worm has been received from points along the Gulf Coast and also about 50 miles north of the Coast.

ONION THRIPS (Thrips tabaci L.)

Virginia — Herbert Spencer (June 4): Cantaloupes and cucumbers are showing injury from the onion thrips. Nicotine dusts are being used with good success for protecting the plants.

A NEMATODE

Mississippi — K. L. Cockerham (June 5): Specimens were sent to this office on June 5; field inspections have since been made. After three to

four pickings the cucumber vines have been almost killed. The yield has been very seriously cut. One farmer stated that he would lose $300 on five acres as a result of this nematode outbreak. Vats have been installed here at Biloxi this spring and the pickle business looked very promising; now the prospect is that the pickle business at this point is killed for the future.

MILLIPEDS

Maine — E. M. Patch (June 6): A correspondent from Wilton writes as follows: "For several years they have been doing damage to our gardens and bedding plants, especially cucumbers, as they injure the fruit. They seem to be on the increase and in most everybody's garden."

MELONS

MELON APHID (Aphis gossypii Glov.)

Florida — J. R. Watson (June 16): The melon aphid has done less damage than usual to the watermelon crop this year.

Nebraska — M. H. Swenk (May 25-June 25): About the normal number of reports of injury by the melon aphid are being received.

Mexico — A. W. Morrill (June 16): This pest is usually present and more or less destructive to cucurbits in gardens in the Yaqui Valley, Sonora, Mexico. The first commercial crop of cantaloupes since 1911 was grown in this locality this spring, the shipping season ending early in June. No aphid attack was observed or reported by representatives of the shipping organizations who are in touch with all the growers. No aphids on volunteer cotton.

Arkansas — Dwight Isely (June 20): The melon aphid is causing damage to cantalpupe and other cucurbits in the cantaloupe section of southwestern Arkansas in Sevier County, near Ft. Smith in Sebastian County, and in Washington County.

BEAN THRIPS (Heliothrips fasciatus Perg.)

Mexico — A. W. Morrill (June 16): This pest multiplied on peas during December, January, and February, transferring to cantaloupes when the pea vines dried up. Principal damage to cantaloupes was in May when the crop was maturing. On June 6 abundant on peas and beans in gardens in the Yaqui Valley, Sonora, as well as in cantaloupe fields, but none found on cotton and alfalfa in near-by fields although these are subject to injurious attack by this species.

SQUASH BUG (Anasa tristis DeG.)

Missouri — L. Haseman (June 25): This pest has appeared a little earlier than usual and is already present attacking young squash and related plants.

SOUTHERN GREEN STINK BUG (Nezara viridula L.)

Georgia — O. I. Snapp (June 8): Seriously damaging a field of watermelons at Fort Valley. A grower had to hand-pick and use nicotine sulphate.

ONIONS

ONION THRIPS (Thrips tabaci L.)

Indiana — J. J. Davis (June 24): Onion thrips reported as especially abundant on onion at Fremont June 16 and Angola June 19.

Illinois — W. P. Flint (June 18): C. C. Compton reports that the unusual weather conditions for the first part of June have brought out the onion thrips two or three weeks earlier than usual. Quite severe damage is now being done in part of Cook County.

ONION MAGGOT (Hylemyia antiqua Meig.)

New York — W. D. Mills (June 6): Eggs were found in considerable numbers in a planting or two in Oswego County, while in another the maggots had hatched.

Wisconsin — E. L. Chambers (June 10): The onion maggot has been a serious pest in Barron, Washburn, Racine, and Shawano Counties, according to our reports.

J. E. Dudley, Jr. (June 20): Infestation appears to vary more than usual from field to field in Racine and Kenosha Counties. Apparently there is less than last year, particularly on the cull onions used as a trap crop. It may be interesting to note that adult flies are still emerging from several hundred puparia placed in ground last fall in a large hibernation cage. Something over 300 puparia have just been sifted from the ground. All appear alive and it seems likely that adults will continue to emerge for two or three weeks. Damage will probably run from very slight (less than 10 per cent) to 20 or 30 per cent in some fields. No natural enemies observed.

Illinois — W. P. Flint (June 18): C. C. Compton reports the onion maggot as causing heavy losses to onion set growers in the Chicago district. The injury is not quite as severe as in 1924 in the southern part of Cook County, but more severe in the north. Many growers are using the oil Bordeaux spray for the control of this insect.

Oregon — Don C. Mote (May 20): A 4 per cent damage represents only the percentage of small onion plants that have been destroyed up to this date. The damage to the crop can not be determined until later. Eggs, maggots, and adults present.

SWEET POTATO

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli Guen.)

Florida — J. R. Watson (June 16): The sweet potato caterpillar appeared in destructive numbers in some fields early in June, some weeks before its usual date of appearance.

TORTOISE BEETLES (Jonthonota (Cassidea) nigripes Oliv. and Metriona (Coptocycla) bivittata Say)

Mississippi — R. W. Harned (June 22): The above named beetles were received from Columbus, where they were feeding on sweet potato leaves on June 18.

SAWFLIES (Sterictophora ebena Norton)

Florida — B. L. Boyden (June 8): Mr. Merrill writes that he found sawflies very abundant in a sweet potato patch in Sanderson.

BEETS AND SPINACH

SUGAR-BEET WEBWORM (Loxostege sticticalis L.)

Montana — Stewart Lockwood (June 8): The first brood of moths of the sugar-beet webworm is now flying though they do not seem to be in as heavy numbers as last year.

A BEET LEAF-MINER (Pegomya vicina Lint.)

Delaware — C. O. Houghton (May 25): Abundant at Newark as usual, a large percentage of the leaves being infested.

SPINACH LEAF-MINER (Pegomya hyoscyami Panz.)

New York — W. D. Mills (June 5): Eggs were found very abundantly in several plantings in Wayne County, while a small number of larvae were at work.

Indiana — J. J. Davis (May 25): Reported at Elkhart on spinach and chard. Damage is severe.

TURNIPS

GARDEN WEBWORM (Loxostege similalis Guen.)

Kansas — J. W. McColloch (June 21): Webworms were reported webbing the tops of turnips at St. John early in June.

RADISH

CABBAGE MAGGOT (Hylemyia brassicae Bouche)

Delaware — C. O. Houghton (May 20): More abundant than usual at Newark, a large percentage of the crop being infested.

Oregon — Don C. Mote (May 20): Only those radishes raised before the emergence of the fly and those raised under a screen are free from maggots.

RADISH WEEVIL (Cleonus sparsus Lec.)

Oregon — B. G. Thomson (May 20): Heavy infestation in vicinity of Corvallis. One patch 100 per cent infested; 15 eggs found on one radish.

OKRA

MELON APHID (Aphis gossypii Glov.)

Mississippi — R. W. Harned (June 22): Aphis gossypii has been causing serious injury to okra at several places in the State during May and June. Several reports on watermelons have also been received from the Delta section of the State.

PEPPERS

A CARABID (Bembidion quadrimaculatum L.)

Ohio — H. A. Gossard (June 23): Bembidium quadrimaculatum was sent to me under date of June 19 from Dover where they were said to be eating at the roots of peppers, causing the plants to die.

S O U T H E R N F I E L D - C R O P I N S E C T S

COTTON

BOLL WEEVIL (Anthonomus grandis Boh.)

GENERAL STATEMENT — Cooperative Report on Boll Weevil Emergence from Cage Tests Prior to June 16.

The following report covers weevil emergence from the various cage tests for the period prior to June 16. It will be noted that in the past years at Tallulah, the emergence on that date has been practically completed, an average of 1.7 per cent of the weevils coming out any later. The heaviest emergence which has ever been experienced after June 16 was in 1923 when 9.12 per cent of the weevils emerged between June 16 and early July. There is little liklihood of any such emergence this year and it seems safe to assume that for all practical purposes, the records given in this report may be considered as more or less final Field observations are checking these records with a very fair degree of accuracy. Unusually heavy infestations prevail in Alabama and South Carolina. Georgia conditions are more spotted, but local heavy infestations are quite prevalent and the average infestation is reasonably high.

Throughout the Mississippi Valley and adjoining territory, extremely spotted conditions prevail. In some small sections it is difficult to find more than a very light sprinkling of weevils, while a short distance away in many instances, weevil infestations will be found.

Throughout northeastern Louisiana the average infestation is light but scattered fields running as high as 25 per cent of 35 per cent infestation are found. Infestation in much of Texas is still exceedingly light and the dry weather has reduced some of the infestations which looked more serious early in the season. To summarize, weevil damage for this season is, of course, a matter of weather at all points, but particularly in the western half of the belt there is little liklihood of more than local damage unless reasonably rainy weather prevails during the next 30 days or more. At the same time, however, farmers should bear in mind that in practically all places there are ample weevils in the fields to quickly produce a serious infestation in a brief

period of rainy, showery weather, such as has prevailed for the last week or so, and now is a very good time for vigilane in detecting such infestations and reducing them as quickly as possible.

It will be noted that the present report also includes general conditions on weevil tests as well as the cage emergence tests. The cooperation which was inaugurated in dealing with cage-emergence records has been exceedingly valuable, and a similar cooperation has been arranged to deal with the progress of weevil and other cotton insect conditions throughout the season. Other stations which did not have hibernation cage tests are joining in this movement and the following new cooperators are now listed: R. W. Harned, Entomologist, A. & M. College, Miss.; L. Haseman, Professor of Entomology, University of Missouri; Dwight Isely, Association Entomologist, Fayetteville, Ark.; and C. E. Sanborn, Entomologist, Stillwater, Okla.

In addition, reports are received from other Federal channels such as the pink bollworm inspectors of the Federal Horticultural Board and it is planned to bring this information together twice a month so that a general cross-section of cotton insect conditions throughout the majority of the belt will be available.

The percentage of weevils placed in cages lastffall which had emerged prior to June 16 at the different points is shown in the following table:

Locality	Per cent of number put into cages which have emerged
Auburn, Ala	15.49
Baton Rouge, La.	6.62
Florence, S. C.	6.44
College Station, Tex.	6.40
Clemson College, S.C.	3.80
Experimnt, Ga.	1.55
Aberdeen, N. C.	.93
Rocky Mount, N. C.	.37
Holly Springs, Miss.	.08
Tallulah, La.	.01

At Tallulah, La., during the past nine years an average of 98.30 per cent of the total emergence was completed prior to June 16. The average emergence to the same date was 1.48 per cent.

At points near College Station, Tex., in 1906,1907, and 1908, the average survival was 5.2 per cent. An average of 99.66 per cent of the total emergence was completed prior to June 16, or 5.18 per cent.

At Florence, S. C., in 1924 on June 15, 98.67 per cent of the total emergence was completed. The emergence to the same date was 0.34 per cent.

REPORTS ON BOLL WEEVIL INFESTATION

South Carolina — F. A. Fenton (June 18): The square infestation ranges from 0 to 40 per cent in the vicinity of Florence.

Georgia and Alabama — J. F. Jackson, Agricultural Department, Central of Georgia RR: Survey carried on between June 5 and 23 in central and southern Georgia and southwestern Alabama indicates that from 0 to 1.8 per

cent of the squares are punctured in the eastern counties, Washington, Jefferson, Burke, Screven, and Bullock; 6.6 per cent at one point in Baldwin County. In the southwestern part of the State puncturing ranges from 3 to 14 per cent in Sumter, Lee, Carroll, Randall, Clay, Dougherty, Calhoun, and Early Counties. In Alabama percenfage of puncturing is decidedly higher, ranging from 6 to 37 per cent in Tallapoosa, Lee, Russell, Bullock, Dale, and Houston Counties.

Alabama — J. M. Robinson (June 17): An unusually heavy weevil infestation, with calcium arsenate dusting under way for control at Pine Apple. (June 19): In several fields at Auburn the number of weevils per acre ranged from 1 to 70. In one of these fields the square infestation was 22 per cent. The infestation in central and southern Alabama is relatively high as contrasted with last year.

Georgia — V. V. Williams (June 8-14): At Valdosta examined 4,800 squares finding 83 punctures, an average of 1.7 per cent punctured squares. Eight fields examined. Infestation ranged from 0.8 to 16.3 per cent.

Oklahoma — C. E. Sanborn (June 12): The first authentic record of boll weevil appearance was in Bryan County on June 5 and very few weevils in that section.

Arkansas — D. Isely (June 16): Half-grown weevil larvae have been found in squares in Miller County.

Mississippi — T. F. McGehee: From May 29 to June 15 examined 20,200 plants, finding no weevils at Holly Springs.

R. W. Harned (June 15): Weevil infestations are very spotted throughout the State. In the southeastern section examinations were made on 19 farms in 5 counties; the weevils found per acre ranged from 0 to 400; the square infestation ranged from 0 to 0.5 per cent. In the southwestern section examinations on 36 farms in two counties showed the square infestation to be from 0 to 20 per cent. In the central and north-central section examinations were made in 7 counties; the square infestation ranged from 0 to 5 per cent. In the northern section examinations were made on 51 farms in 12 counties; the number of weevils found per acre ranged from 0 to 400, whereas the square infestation ranged from 0 to 4 per cent.

Louisiana — W. E. Hinds (May 28): The boll weevil has evidently survived the winter in large numbers in south-central Louisiana, especially. The emergence is still continuing steadily and in some fields weevils have been found as numerous as 250 per acre. In the earliest planted cotton weevils have now developed to the emergence of the first-generation adults. Poisoning for overwintered weevils is now under way in many localities.

B. R. Coad: From June 8 to 14, 20,400 squares were examined at Tallulah, 39 punctures being found, an average infestation of 0.2 per cent. Thirty four fields were examined. Infestation light and spotted, ranging from 0 to 2. 3 per cent.

W. R. Sudduth: Examined 100 plants on June 6 at Shreveport, finding no weevils and 7 punctured squares. On June 13, 100 plants showed no weevils and 1 punctured square.

Texas — W. E. Conn: Examinations made on June 6 and 13 at Ennis, finding no weevils.

A. C. Johnson: On 405 plants examined at Port Lavaca on June 2, one weevil was found and on June 10 one weevil was found. On June 15 on 200 plants examined one weevil was found with a square infestation of 6.5 per cent .

COTTON APHID (Aphis gossypii Glov.)

Illinois — S. C. Chandler (June 12): At Cairo 90 per cent of the plants were infested in all fields examined.

Tennessee — S. Marcovitch (June 14): Specimens of this aphid were sent in from western Tennessee with the report that they were very abundant.

Mississippi — R. W. Harned (June 22): Aphis gossypii is to be found to some extent in almost every cotton field. Nowhere is it reported serious to cotton so far this year.

Louisiana — W. E. Hinds (May 28): The cotton plant louse has been quite abundant on young cotton and prospects at the present time would indicate infestation to follow later in the season if weather conditions are favorable.

Texas — F. L. Thomas (June 15): Quite a number of complaints have come to us as the result of injury being produced by cotton plant lice, not only on cotton but also on watermelons.

GENERAL STATEMENT — B. R. Coad (June 15): The cotton louse is common, though not destructive as yet. Prevailing weather conditions seem to favor the reproduction of the louse, as they did in 1924.

Georgia — V. V. Williams (June 15): Lice are present in some fields with no serious injury as yet.

South Carolina — F. A. Fenton (June 16): A considerable aphid infestation was present early in the season but has practically disappeared.

COTTON LEAFWORM (Alabama argillacea Hbn.)

Texas — T. C. Barber (May 22): Found caterpillars small to about half-grown, 3½ miles north of Brownsville.

Dr. Hunter (May 28): Telegram of May 28 to B. R. Coad reads as follows: "State Entomologist (Texas) Thomas wires from Corpus Christi "Alabama argillacea larvae and pupae found 10 miles south of here. Large percentage of natural control."

F. L. Thomas (June 12): All stages of the cotton leafworm are showing up in many fields of Nueces County. They have severely ragged spots in those fields, and since the rains have been falling along the Coast we shall be fortunate if a severe outbreak does not develop.

Haiti — George N. Wolcott (May 26): This is to report an outbreak of the cotton caterpillar at Plantation Bon Repos in the Cul-de-Sac, a few miles north of Port-au-Prince, a few weeks ago. On account of an abundance of rainfall, the ratoon cotton plants started growing and flowering this spring (which is rather exceptional for the cotton-growing sections of Haiti), but the rainfall kept up so that most of the bolls dropped or became diseased, and before the remainder could approach maturity the cotton caterpillars had stripped the plants. Counts made of cocoons in several parts of the field showed that 40 per cent were empty, due to a common ant attacking the prepupae. Adults of Chalcis incerta Cresson were also collected in the same field but were not abundant, and none emerged from a large series of Alabama pupae collected.

WOOLLY-BEAR CATERPILLAR (Diacrisia virginica Fab.)

Texas — F. L. Thomas (May 9): The second brood which has occurred this season in southern Texas. Caterpillars are abundant and may cause considerable damage if not controlled.

COTTON SQUARE-BORER (Uranotes melinus Hbn.)

Mississippi — R. W. Harned (June 22): The cotton square-borer has been received from several counties. This species has also been reported as injuring bean pods.

RED SPIDER (Tetranychus telarius L.)

Arkansas — W. J. Baerg (June 25): Outbreak of red spider on cotton developing in Monroe and Crittenden Counties.

SALT-MARSH CATERPILLAR (Estigmene acraea Drury)

Texas — W. D. Hunter (June 10): Reports indicate general but not very heavy occurrenee of the salt-marsh caterpillar throughout southeastern Texas.

F. L. Thomas (June 15): Another outbreak of Estigmene acraea was reported on about 200 acres of cotton in Brazoria County. Although the caterpillars were in practically all stages I think they are mostly of the third brood. Cotton at this point was small and much of it was being stripped. Paris green diluted with lime, 1 part in 4, was being applied but apparently only a few of the large worms had been killed.

Mississippi — R. W. Harned (June 8): Damage to cotton by the salt-marsh caterpillar in Jackson, Noxubee, Oktibbeha, and Chickasaw Counties.

A TIGER MOTH (Apantesis oithona Stkr.)

Mississippi — R. W. Harned (June 22): During the past month there has been quite a serious outbreak of hairy caterpillars in cotton fields in parts of eastern and southern Mississippi. Adults reared have been determined by F. H. Benjamin, Curator of the William Barnes collection at Decatur, Ill., as follows: Apantesis oithona Stkr. (1878) form normal rectilinea French, (1879) ab. conspicua Stretch, (1906). Most of the complaints in regard to this insect came from cotton growers, but in some cases many garden plants were destroyed.

In most cases that have come to our attention, the fields where these insects have caused damage were in sod last year. In all other cases only crops adjoining pastures or uncultivated fields were attacked. Usually these worms appeared in rather low places close to swamps. Reports of these insects came from quite a number of counties, but specimens were actually received only from Jackson County on the Gulf Coast and from Noxubee, Chickasaw, and Oktibbeha Counties in the northeastern part of the State.

BEET ARMYWORM (Laphygma exigua Huebn.)

California — T. D. Urbahns (May 22): About 250 acres of first planting completely destroyed and 200 acres of second planting badly injured. Three thousand acres infested in Kern Lake district. Poisoned bran mash being sprayed by cotton planters and grain seeders over nearly 3,000 acres.

E. A. McGregor (May 26): Owing to pressure and appeals from cotton growers we were impelled to visit one planting near Poplar, Tulare County. The field was of 130 acres which on the 23d showed a perfect stand and perfect condition. During the short interval between then and the day of our visit (May 26) the pest became present in such numbers as to destroy about 12 solid acres and to threaten the entire field. A species of pigweed (Amaranthus) appeared to be the native host plant, but these weeds had become almost swept away by the vast numbers of worms.

Hardly a leaf of the cotton plants could be found in the center of infestation that was free of the caterpillars. As many as 29 larvae were counted on a single small seedling. The foliage was being skeletonized.

Judging from the complaints that have come to us concerning this pest it would seem established that its occurrence is rather general over the cotton growing area of Tulare and Kern Counties.

F. R. Braun (June 2): In Tulare County young cotton plant leaves were eaten severely by the first generation. They are pupating now, indicating that damage is over for the present.

AN ARMYWORM (Prodenia praefica Grote)

California — White C. Barber (June 15): Second cutting of alfalfa drives the larvae into cotton fields. Infestation in some localities in Kern County is serious. Good control with poisoned bran mash.

TOBACCO

CUTWORMS (Feltia sp.)

Tennessee — A. C. Morgan (June 23): Cutworms have been unusually numerous, some fields showing 100 per cent infestation of the newly-set plants over considerable areas.

SOD WEBWORM (Crambus spp.)

Tennessee — A. C. Morgan (June 23): Sod webworms have been scarcer than usual in the vicinity of Clarksville.

WEBWORMS (Crambus caliginosellus Clem.)

Virginia — A. C. Morgan (June 23): Mr. Gilmore reports that in the Dark Tobacco Belt of Virginia Crambus caliginosellus Clem. is very widespread and injurious to both young corn and tobacco. Some growers have had to reset their crops almost completely at the first resetting, and have had from 25 to 50 per cent to reset in the second and third resettings. Some fields of corn have had to be entirely replanted. Trap baits are exercising from 50 to 65 per cent control.

TOBACCO WORM (Protoparce quinquemaculata Haw.)

Florida — F. S. Chamberlin (June 19): At Quincy the hornworm emergence appears to be about normal at the present time. Usually 75 per cent of the emergence takes place between June 16 and July 15.

Tennessee — A. C. Morgan (June 23): Tobaccon hornworms are not as numerous as usual at this season of the year.

BUDWORM (Heliothis virescens Fab.)

Florida — F. S. Chamberlin (June 17): The budworm infestation in Gadsden County is about normal at the present time.

TOBACCO THRIPS (Frankliniella fusca Hinds)

Florida — F. S. Chamberlin (June 17): Although the season has been apparently very favorable for thrips no injury has resulted to tobacco from this pest. No remedies were used.

TOBACCO FLEA BEETLE (Epitrix parvula Fab.)

Florida — F. S. Chamberlin (May 27): Shade tobacco in Gadsden County is monly slightly infested with the tobacco flea beetle.

Tennessee — A. C. Morgan (June 23): The tobacco flea beetle has been unusually sscarce this year, no reports having been received of severe damage to plant beds, and the damage to young plants in the field has been less than usual.

CIGARETTE BEETLE (Lasioderma serricorne Fab.)

Florida — A. C. Morgan (June 23): During a recent trip to Florida I visited Tampa and interviewed a number of cigar manufacturers. It is interesting to know that fumigation with hydrocyanic-acid gas is coming into use in Tampa. When the work was first started there, years ago, nothing was being done to control the cigarette beetles and recommendations for fumigation met with little favor at the time. The annual loss to Tampa cigar manufacturers from returned goods amounts to $75,000 to $100,000.

GREEN JUNE BEETLE (Cotinis nitida L.)

Tennessee — A. C. Morgan (June 23): The grubworm, Cotinis nitida L., was about as injurious as usual, a few beds being almost entirely uprooted by its activity.

WIREWORMS (Elateridae)

Kentucky — A. C. Morgan (June 23): True wireworms are very widespread in the Burley region, centering around Lexington, and scarcely a field following sod fails to show some infestation.

EASTERN FIELD WIREWORM (Limonius agonus Say)

Connecticut — W. E. Britton (June 2): About a dozen growers at Windsor report injury. One has 84 acres under cloth and 45 to 50 acres were destroyed and replanted, some of it twice. After several days of hot weather most of the wireworms disappeared, probably going deeper into the soil. (See also under general feeders.)

A WEEVIL (Trichobaris sp.)

Arizona and New Mexico — A. C. Morgan (June 23): Mr. Joe Milam, now working in Arizona and New Mexico, has sent in tobacco stalks infested with an apparently unknown species of weevil larva. These specimens have been determined as Trichobaris sp. by H. S. Barber. In the localities where this species was collected Mr. Milam reports an infestation of 75 per cent.

CRANE FLIES (Tipulidae)

Massachusetts — A. I. Bourne (June 22): Dr. Fernald visited a tobacco field just west of Amherst, in Hadley, in response to a complaint of severe cutworm injury. Upon examination of the field he could find no cutworms and none of the plants had been severed from the root but the leaves were considerably riddled and in some cases the center buds had been devoured so that probably no further development could take place. After considerable search he was able to find specimens of crane fly larvae.

Connecticut — W. E. Britton (June 5): At Windsor newly-set plants are injured by being eaten into the side of the stems just below the surface of the ground.

RICE

CHINCH BUG (Blissus leucopterus Say)

Arkansas — J. W. Ingram (June 15): Over 500 acres of unflooded rice has been destroyed by chinch bugs in Arkansas County this spring. On a much larger acreage the chinch bugs have killed so many of the young rice plants that the stand is very poor. Where discovered in time the chinch bugs are being controlled by flooding the fields. All stages of the insect were found on rice in the unflooded fields.

SUGARCANE

SUGARCANE BEETLE (Euetheola rugiceps Lec.)

Arkansas — J. W. Ingram (June 16): Sugarcane beetles were attacking rice in unflooded fields and lowering the stand to some extent in the vicinity of Stuttgart. A number of dead beetles were collected on the irrigation water in lately flooded fields.

SUGARCANE BORER (Diatraea saccharalis Fab.)

Louisiana — T. E. Holloway and W. E. Haley (May 20): At a plantation near Morgan City numerous "dead hearts" caused by the sugarcane moth borer were noticed in a garden plot of special varieties of sugarcane. The owner estimated that within the last few weeks he has cut out 1,000 dead plants from about three-quarters of an acre. Besides large larvae we noticed one pupa. The borer is probably about two weeks in advance of a normal year.

F O R E S T A N D S H A D E - T R E E I N S E C T S

GENERAL FEEDERS

WHITE-MARKED TUSSOCK MOTH (Hemerocampa leucostigma S. & A.)

Massachusetts — J. V. Schaffner Jr. The first generation of this species is very common in Everett and Revere, Mass., on shade trees.

New York — R. E. Horsey (June 25): The white-marked tussock moth is reported as more numerous than usual in Rochester and occurs in some numbers in the vicinity of New York City.

Nebraska — M. H. Swenk (May 25-June 25): An unusual abundance, amounting almost to an outbreak, of the white-marked tussock moth has developed in Lincoln and other cities in eastern Nebraska.

FALL WEBWORM (Hyphantria cunea Drury)

New York — E. P. Felt (June 25): Recently hatched fall webworm larvae were observed near Albany June 15.

GREEN FRUIT WORM (Graptolitha antennata Walk.)

Vermont — J. V. Schaffner Jr. (June 26): An infestation of Xylina antennata

is estimated as covering 360 acres. Feeding on black ash, willow, and soft maple. Some trees were 100 per cent defoliated on June 20.

New York — J. V. Schaffner Jr. (June 26): A few acres in a maple swamp at East Fishkill badly infested by Xylina antennata; some trees 50 per cent defoliated June 12.

FALL CANKERWORM (Alsophila pometaria Harris)

GENERAL STATEMENT — J. V. Schaffner Jr. (June 26): This species apparently quite common. Some observations recorded as follows: Southbury, Conn., some linden and maple trees stripped. At Kennebunkport, Maine, infestation along highway for a mile. On June 20th defoliation rated at 10 per cent on elm, maple, and fruit trees. At Deering Junction, Maine, quite abundant on apple.

New York — E. P. Felt (June 25): The fall cankerworm has been very abundant and injurious in the southeastern portion of Westchester County.

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

Missouri — L. Haseman (June 25): This pest has now shown up this spring as abundantly as during the past couple of seasons though some are complaining of the pest on fruit, shade, and evergreen trees. The caterpillar is now about a fourth grown.

LIME TREE SPANWORM (Erannis tiliaria Harr.)

New England and New York — J. V. Schaffner Jr. (June 26): Reports indicate this species is common through most of the State. Some observations recorded as follows: Westport, N.Y., very plentiful; Chesterfield, N. Y., abundant, some tree stripped; Cranberry Lake, N. Y., in forest of beech, maple, and yellow birch, trees noticeably defoliated. Barre, Vt., infestation general but light. Strafford, Londonderry, and Dorset, Vt., plentiful. Powell, Vt., light to medium infestation, Essex, Vt., area of 30 acres badly infested, some red oaks completely stripped. Jericho, Vt., plentiful, some elm and cherry trees 75 per cent defoliated. Woodford, Vt., 6 to 8 square miles of woodland heavily infested.

New York — E. P. Felt (June 25): Lime tree spanworm larvae have been extremely abundant over much of the Adirondacks and in portions of the Catskills, defoliating some of the smaller trees beside open areas and seriously injuring underbrush. The caterpillars feed by preference upon basswood, oak, hard maple, and birch in about the order named. There appears to have been no extensive stripping. The insect appears to have been relatively scarce at lower elevations.

ELM SPANWORM (Ennomos subsignarius Huebn.)

Michigan — R. H. Pettit (June 6): Reports of infestations by what I take to be Ennomos subsignarius, although, of course, it may be

something else. Any way they are light green and dark brown striped Geometrid caterpillars working in woodlots and parks here and there all over.

OYSTER SHELL SCALE (Lepidosaphes ulmi L.)

Illinois — W. P. Flint (June 18): There is more indication of parasitism of this scale than at any time during the last several years. A lighter hatch occurred on all trees in the vicinity of Urbana.

RED SPIDER (Tetranychus telarius L.)

Indiana — H. F. Dietz (June 12): The red spider has done and is doing serious damage to all kinds of ornamental trees, shrubs, and plants, such as evergreens (all kinds), bush honeysuckle, Buddleia, phlox, delphiniums; columbine, sweet peas, asters, beans, beets, gladioli, dahlias, etc.

PERIODICAL CICADA (Tibicina septendecim L.)

Mississippi — R. W. Harned (June 11): I sent out a newspaper article to all the papers in the State and the papers that circulate in this State, and in response to that, I have received a dozen or more packages of cicadas but there are no specimens of the periodical cicada. Most of the cicadas that I have received are Tibicen auletes Germ. T. vitripennis Say and a few specimens of T. sayi S&G and T. pruinosa Say. I do not believe that we will be able to get any records on Brood XXIV in this State this year. Unless some specimens are actually obtained of this brood or unless specimens were actually seen by an entomologist in 1899 and 1878, I am inclined to believe that the correspondents mistook other cicadas for the periodical cicada. I find that most people who send in cicadas think they are sending the periodical cicada. They do not realize that we have in this State about 20 other species.

Louisiana — W. E. Hinds (June 15): Occurrence of the periodical cicada around Prodnax, Morehouse Parish, La., was reported at this time in large numbers and doing serious injury to the stands of cotton in some fields.

Missouri — E. Haseman (May 28): In my earlier bulletin on the periodical cicada, I reported what appeared to be a number of authentic records in Missouri on the appearance of the 17-year broods which appeared in 1919. These came from an earlier survey by Prof. Steadman in the summer of 1902. I rechecked on all of the localities from which the earlier records came during the last visitation of this brood during 1919 and I failed to get a single authentic record of the occurrence of this brood west of the Mississippi River. This of course, agrees with Marlatt's earlier report though the original Steadman records appeared to be authentic. I had the original letters from each individual reporting the appearance of the cicada in 1902, but evidently in each case they must have referred to the common 2-year cicada

for the brood failed to show up anywhere in our 1919 Survey. This merely goes to show that in records of this sort one can never be too sure, particularly where anything new and striking comes up.

Nebraska — M. H. Swenk (May 25): Relative to Brood XVI of the periodical cicada, I believe there is an error here. Although Nebraska never extended east of the Missouri River, or south of the 40th parallel, in 1857 it included much of the Dakotas, Montana, Wyoming, and northeastern Colorado; in fact it reached its present boundaries only in 1861. Some of the earlier reports use the name in a very broad sense, and in the fifties it was sometimes loosely used for localities now in Kansas, and it may be this record of the periodical cicada for Richardson County in 1857 really pertained to some locality farther south. Again it may have been a plain misidentification. At any rate, it was not found by us in 1908 nor do I have any records of it left me by Prof. Bruner for the year 1891. My opinion is that we have only Brood IV, which I traced over a considerable area in southeastern Nebraska in 1913, and of which we have records of occurrence in Otoe County in 1896.

GIPSY MOTH (Porthetria dispar L.)

Massachusetts — A. I. Bourne (May 26): Gipsy moths are present in such small numbers that the orchardists are practically ignoring them. Mr. Farrar, of South Lincoln, finds but 20 egg masses on about 1,200 young bearing trees. (June 22): Mr. Lacroix states that while the gipsy moth can be found somewhat on a very few bogs, yet his observation would indicate that it is causing less and less damage each year.

Rhode Island — A. E. Stene (June 20): Scouting for the gipsy moth indicates that this insect is rather more widely distributed than at any time in the past and is quite a little more abundant than it was last year, although so far there has been little indication of prospective defoliation in any of the sections in which we have worked.

BROWN-TAIL MOTH (Euproctis chrysorrhoea L.)

Massachusetts — A. I. Bourne (May 26): Brown-tail moths are present in such small numbers that the orchardists are practically ignoring them.

ARBORVITAE

ARBORVITAE LEAF MINER (Argyresthia thuiella Pack.)

Wisconsin — E. L. Chambers (June 10): Specimens were sent in for determination with statement that quite a large number of trees in Milwaukee are being injured by the arborvitae leaf miner.

RED SPIDER (Tetranychus telarius L.)

Wisconsin — E. L. Chambers (June 10): Several complaints have been received from nurserymen in the southern part of the State who have had

evergreens heavily attacked by the red spider. Many arborvitae in yard in this section were plastered white with young mites while red cedars were hanging full of webs.

BIRCH

SPINY WITCH-HAZEL GALL (Hamamelistes spinosus Shim.)

New York — E. P. Felt (June 25): Hamamelistes spinosus were unusually abundant in the pseudo-galls on both gray and black birch near Albany in early June.

BRONZE BIRCH BORER (Agrilus anxius Gory)

New York — E. P. Felt (June 25): The bronze birch borer continues to destroy birches in this State, a few being removed from Highland Park, Rochester, this spring and dying or dead trees being observed here and there in other parts of the State.

BIRCH LEAF MINER (Fenusa pumila Klug)

New York — E. P. Felt (May 28): The birch leaf miner, Fenusa pumila Klug, was extremely abundant upon young birch at Stephentown, on May 27, an indication that the work of this recently introduced insect will be very prevalent another season. (June 25): The birch leaf miner is somewhat abundant and widely distributed in the eastern part of the State, the first larval generation having about completed its growth.

BOXELDER

BOXELDER PLANT BUG (Leptocoris trivittatus Say)

Nebraska — M. H. Swenk (May 25-June 25): Numbers of reports of an abundance of the boxelder plant bug on boxelder trees have been received during the period covered by this report.

BOXELDER APHID (Periphyllus negundinis Thos.)

Nebraska — M. H. Swenk (May 25): Complaints of injury by the boxelder aphid (Chaitophorus negundinis) continued to come in from western Nebraska counties during the first half of May.

ELM

SPINY ELM CATERPILLAR (Euvanessa antiopa L.)

Nebraska — M. H. Swenk (May 25-June 25): Elm trees in the city of Holdrege, Phelps County, were somewhat injured during middle June by the spiny elm caterpillar.

ELM LEAF MINER (Kaliofenusa ulmi Sund.)

Massachusetts — A. I. Bourne (May 26): Adults of this species were observed

on Compderdown elms in considerable numbers beginning about May 3.

New York — E. P. Felt (June 25): The elm leaf miner is extremely abundant on groups of unsprayed elms in Troy and vicinity.

WOOLLY ELM APHID (Eriosoma americanum Riley)

Missouri — L. Haseman (June 25): This insect was unusually noticeable, curling the leaves of the elm, particularly in the open country this spring and the migration to apple trees, particularly to young apple trees, is now showing up in the form of little clusters around pruning scars and such places. The insect does not seem to be any more abundant than during recent seasons, but it is attracting some attention.

ELM LEAF BEETLE (Galerucella luteola Mull.)

Oregon — Mr. Wilcox (May 20): Adults first observed May 5. Eggs deposited in laboratory on May 10.

EUROPEAN ELM SCALE (Gossyparia spuria Modeer)

Ohio — Eugene Mendenhall (June 5): In the central and southern part of the State I find the European elm scale quite general.

Herbert Osborn (May 28): Elm trees are Columbus were infested by this insect.

Wisconsin — E. L. Chambers (June 10): Several trees have been killed in Madison by the European elm scale and it has been found seriously injuring large numbers of elms in several wards of the city. Many trees in Milwaukee are attacked by it as well.

MAPLE LEAF CUTTER (Paraclemensia acerifoliella Fitch)

New York — C. R. Crosby and assistants: Specimens sent in from Brentwood, L. I., with a report that elm trees were badly injured last year and that the insects were starting to appear again this year.

JUNIPER

JUNIPER WEBWORM (Dichomeris marginellus Fab.)

Connecticut — W. E. Britton (June 24): Reported as causing serious injury to Juniperus hybernica at West Haven and Manchester.

HICKORY

A PHYLLOXERA (Phylloxera carya-avellana Riley)

Nebraska — M. H. Swenk (May 25-June 25): From Douglas County specimens of hickory twigs showing very heavy infestation with what seems to be Phylloxera carya-avellana were received late in May.

LARCH

LARCH CASE BEARER (Coleophora laricella Huebner)

GENERAL STATEMENT — William Middleton (June 10): The larch case bearer is epidemic on larch principally but also on balsam fir and white pine in New England, particularly Maine, New Hampshire, and Massachusetts, and in New York State in the region of Cranberry Lake. This information was received from H. B. Pierson and H. MacAloney of this office and S. T. Dana of the Forest Service.

Maine — E. M. Patch (May 26): Birds (kind not reported) were feeding on the larvae, specimens of case bearer received, from Westfield. (June 20): Reported from Monmouth and Columbia Falls, severe damage being done.

New York — C. R. Crosby and assistants: The larch planting on the campus at Cornell University (Ithaca) is quite badly infested by this insect.

LOCUST

GIANT SKIPPER (Epargyreus tityrus Fab.)

Indiana — J. J. Davis (June 24): The locust leaf-folder reported abundant and destructive on moss locust (Robinia hispida) at Evansville June 16.

LOCUST LEAF MINER (Chalepus dorsalis Thumb.)

Ohio — H. A. Gossard (June 23): The locust leaf miner was received from Newton June 3. It seems to be doing considerable damage in that section.

MAPLE

AN APHID (Neoprociphilus aceris Monell)

Connecticut — W. E. Britton (June 24): Observed in New Haven and Hamden, and many infested leaves had curled and turned brown.

BLADDER MAPLE GALL (Phyllocoptes quadripes Shim.)

Ohio — H. A. Gossard (June 23): Received from Paulding May 29, from Marietta June 15, and from Swanton June 17, with a report that this insect was attacking maple.

Indiana — J. J. Davis (June 24): The bladder maple gall is abundant on maple leaves in central and southcentral Indiana.

COTTONY MAPLE SCALE (Pulvinaria vitis L.)

Massachusetts — J. F. Schaffner Jr. (June 26): Several reports indicate this species as rather abundant on silver maple in towns and cities around Boston.

Ohio — H. A. Gossard (June 23): From June 6 to June 18 Pulvinaria vitis was received from Gallipolis, Massillon, Orrville, Canton,

Conneaut, Coldwater, and Cleveland. Something like one-half dozen reports were received from Canton and these indicated that practically all the trees in that city were severely attacked.

Indiana — J. J. Davis (June 24): More extensive and in many localities more abundant than for years. Infestations of conspicuous importance occurred from the extreme south to north end of the State, In past years we have had no reports from the southern half of the State.

H. F. Dietz (June 12): This scale is widely scattered over the State and reports are daily coming in from new localities. It is attracting more attention this year than any time since 1916. The infestations reported and seen vary from very light to very heavy even in the same locality.

Illinois — W. P. Flint (June 12): This insect is moderately abundant throughout central and northern Illinois, many specimens having been received during the past month from cities and towns in this area. Predators are not as abundant as usual; in fact, only very few of the scales sent in have shown any indication of the presence of ladybugs.

Mississippi — R. W. Harned (June 22): The cottony maple scale was probably never more abundant or serious in this State than it has been for the last six weeks. It has been received from many points in the State.

GREEN-STRIPED MAPLE WORM (Anisota rubicunda Fab.)

Missouri — L. Haseman (June 25): There is one locality in this State where ever so often a serious epidemic of this caterpillar develops. In 1906 they completely defoliated soft maples over a large territory in Jackson County and recently a serious epidemic from the same locality has been reported. To my knowledge, it has never attracted serious attention anywhere else in the State in the last twenty years.

PINE

WHITE PINE SAWFLY (Neodiprion pinetum Norton)

Nebraska — M. H. Swenk (May 25-June 26): In a grove of white pine and yellow pine located in southeastern Rock County injury by what seemed from the description to be the white pine sawfly was reported early in June.

PINE LEAF SCALE (Chionaspis pinifoliae Fitch)

Massachusetts — A. I. Bourne (May 26): We noted the first hatching young of the pine leaf scale on or about May 19-21. (June 22): The eggs of the pine leaf scale were observed to be hatching around the 20th of May. Practically all had hatched by the 25th.

SOUTHERN PINE BEETLE (Dendroctonus frontalis Zimm.)

N. C. — F. C. Craighead (June 8): Recent studies have indicated that outbreaks of this insect occur during periods of abnormally low rainfall. The U. S. Weather Bureau reports that the rainfall for the first five months of 1925

has been much below normal in the southeastern sections of the United States, the deficiency in rainfall at some stations being as much as 15 inches. Should the present dry spell continue it is likely that unusually serious losses will develop this summer. It is therefore recommended that all timberland owners keep a close watch on their pine lands. Examinations should be made once a month or oftener for clumps of dying trees, as indicated by fading or brown foliage, and reports sent immediately to Mr. R. A. St. George, Bureau of Entomology Field Station, P. O. Box 1518, Asheville, N. C.

A CHRYSOMELID (Colaspis brunnea var.)

Louisiana — C. E. Smith (June 24): Beetles doing severe injury at Covington to pine by feeding on needles. Small seedlings being injured most severely. Infestation extends from 1 mile west of Covington to Robert about 15 miles.

Mississippi — R. W. Harned (June 25): Beetles were collected by our Inspector Mr. H. Gladney, at Ocean Springs, on June 23,1925, from the property of Mr. T. P. Harden, and sent in to this office with the following note: "These beetles have eaten the foliage on ten acres of young pines. The pines look as though they have been burned by fire. My hat would not hold the beetles from three trees. The owner first noticed this infestation about one week ago."

POPLAR

COTTONWOOD APHID (Chaitophorus bruneri Williams)

Nebraska — M. H. Swenk (June 26): From Holt County a report of injury to cottonwood trees by the aphid Chaitophorus bruneri was received early in June.

A SHIELD BEARER (Coptodisca sp.)

New Mexico — Paul M. Gilmer (June 22): We have received a report from Hudson with a statement that these insects were attacking "apple trees."

J. A. Hyslop: The specimens received were Aspen so this is evidently a typographical error. The cocoons were characteristicly those of Coptodisca but several were fastened together in a most unusual manner with silken threads several times the length of a cocoon. This was apparently not accidental as in every case these coccoons were in such chains.

SPRUCE

A Eucosmid (Argyroploce abietana Fern.)

New York — E. P. Felt (June 25): Olethreutes abietana Fern.) was reared in large numbers from a specimen of Colorado blue spruce growing at Wilmington, Essex County. It has also been reported as working upon Picea asperata at Rochester. This insect appears to have been unusually abundant.

A EUCOSMID (Epinotia nanana Triet.)

New York — E. P. Felt (June 25): A small species, Epinotia nanana (Ident. Busck),

RED SPIDER (Tetranychus bimaculatus Harvey)

Nebraska — M. H. Swenk (May 25-June 25): Cedars, spruces, and other evergreens are being considerably worked upon by the common red spider during the present June.

Connecticut — Philip Garman (June 24): Caused considerable damage during May and June at Hamden, Cheshire, and Milford.

WALNUT

A MITE (Eriophyes sp.)

Mississippi — R. W. Harned (June 22): From different parts of the State black walnut leaves have been received with galls on them. These galls have been determined by Dr. E. P. Felt, Dr. H. E. Ewing, and others as being caused by Eriophyes sp.

INSECTS ATTACKING GREENHOUSE AND ORNAMENTAL PLANTS

MISCELLANEOUS FEEDERS

APHIDIDAE

Ohio — Herbert Osborn (May 28): Aphids of various species have been found plentifully at Columbus, and have been noticed particularly upon roses and spiraea. Coccinellid beetles and lace-winged flies have been quite effective in attacks on the aphids.

BEAN APHID (Aphis rumicis L.)

West Virginia — Fred E. Brooks (June 22): Shrubs of waahoo, Evonymus atropurpureus and strawberry bush, E. americanus, growing on a lawn are so badly injured by the bean aphid that recovery is doubtful.

RED SPIDER (Tetranychus telarius L.)

Massachusetts — A. I. Bourne (June 22): Prof. Koon reports that in the market garden section around Boston, where greenhouse tomatoes and cucumbers are grown, the greenhouse red spider is apparently becoming more and more widely prevalent.

Mississippi — R. W. Harned (June 22): Red spider injury has been reported from many places, chiefly on hedges and ornamental plants.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Georgia — O. I. Snapp (June 6): The San Jose scale has been increasing very rapidly during the last several weeks on shrubs and ornamentals in yards of Fort Valley.

L MEALYBUGS (Pseudococcus sp.)

Mississippi — R. W. Harned (June 22): Mealybugs have been received from a number of correspondents. They apparently cause more damage in places infested with the Argentine ant than in other places. Figs and ornamental plants are most frequently infested.

GARDEN FLEAHOPPER (Halticus citri Ashm.)

Minnesota — R. E. Wall (June 13): The plant leafhopper, Halticus citri, is common in the greenhouses in the Twin Cities where mosaic trouble of cucumbers is prevalent.

GREENHOUSE LEAF TYER (Phlyctaenia rubigalis Guen.)

New York — P. J. Chapman: (A)This is causing a great deal of trouble in greenhouses at Buffalo. It lays eggs in most of the stock, but particularly snapdragon.

ASTERS

CORN ROOT APHID (Anuraphis maidi-radicis Forbest)

Indiana — J. J. Davis (June 24): First report was received June 17 from Shelbyville. In this case the species was evidently Aphis maidi-radicis.

CANNA

CANNA LEAF-ROLLER (Calpodes ethlius Cram.)

Mississippi — R. W. Harned (June 22): The large canna leaf-roller has been received from several correspondents with reports of serious injury to canna plants.

COLUMBINE

COLUMBINE LEAF MINER (Phytomyza aquilegiae Hardy)

Nebraska — M. H. Swenk (May 1-25): From Boone County on the first of May came information of the practical destruction of the leaves of cultivated columbine plants by the leaf miner Phytomyza aquilegiae.

GLADIOLI

ZEBRA CATERPILLAR (Mamestra picta Harr.)

Michigan — R. H. Pettit (June 11): I received today a complaint from Dowagaic, where many thousands of zebra caterpillars are eating gladioli in the plantation of a gladiolus grower. This is rather an unusual complaint.

THRIPS SP.

Indiana — J. J. Davis (June 24): Injuring an extensive planting of gladiolus at Loogootee June 18.

GOLDENGLOW

A SAWFLY (*Macrophya simillima* Rohwer)

Connecticut — W. E. Britton (June 20): Larvae eating the lower leaves of goldenglow at Green's Farms, Westport. Plants were all defoliated last season by July 11. Adults reared and many collected this season.

HOLLAND BULBS

LESSER BULB-FLY (*Eumerus strigatus* Fallen)

North Carolina — Franklin SHerman (June 30): Mr. C. S. Brimley of this office grows a considerable number of bulbs at Raleigh, and while he has never noted insect infestation of them, yet he has twice taken the adult of this species in his garden, as follows: July 22, 1924, a male; June 16, 1925, a female. These are our first records of the presence of this insect in this State.

LILAC

OYSTER SHELL SCALE (*Lepidosaphes ulmi* L.)

New York — C. R. Crosby (April 18): Badly infested lilac twigs received from Corning. (June 7): Badly infested branch received from Ithaca.

Indiana — J. J. Davis (May 28): First young hatched May 23 at Lafayette. However, cold weather the night of the 23d stopped hatching. Consequently, the period of hatching will likely extend over a two-week period.

ORCHIDS

CATTLEYA FLY (*Isosoma orchidearum* Westw.)

North Carolina — Franklin Sherman (June 30): An orchid grower at Asheville reported injury which was investigated by Mr. J. C. Crawford who reports it to be this insect. This is our first record of this insect in the State.

PHLOX

RED SPIDER (*Tetranychus telarius* L.)

Indiana — J. J. Davis (June 24): Reported injuring phlox June 5 at Lebanon. Reports from other sections of the State of injury to evergreens and hydrangea. Dry, hot weather is evidently responsible for this injury.

PRIVET

A TORTRICID (Cacoecia parallela Rob.)

New York — E. P. Felt (June 25): A tortricid, Cacoecia parallela has been very abundant and injurious to privet in Rochester.

RHODODENDRON

RHODODRENDON LACEBUG (Stephanitis rhododendri Horv.)

New York — R. E. Horsey (June 25): The rhododendron lacebug is numerous in Highland Park, Rochester.

ROSE

ROSE LEAF-ROLLER (Archips rosaceana Harr.)

New York — E. P. Felt (June 25): R. E. Horsey reports that the rose leaf roller was very numerous in early June on hybrid perpetual roses at Rochester.

ROSE SAWFLY (Caliroa aethiops Fab.)

Nebraska — M. H. Swenk (May 25-June 25): The first report of injury by the rose slug for the season was received from Polk County on June 11.

FLOWER THRIPS (Euthrips tritici Fitch)

Michigan — R. H. Pettit (June 15): I am receiving and finding the common flower thrips on many flowers this year. The hot, dry spell during which we have just passed seems favorable to them. Many rose buds are being blasted.

STALK BORER (Papaipema nitela Guen.)

New York — E. P. Felt (June 25): R. E. Horsey reports that the stalk borer has been attacking tender rose tips at Rochester.

A SCARABAEID (Trichiotinus piger Fab.)

Indiana — H. F. Dietz (June 12): A heavy infestation of adults of this insect was observed in the flowers of hybrid perpetual roses. As many as 8 adults were taken from one bloom. They were apparently after the pollen but were ruining the flowers in their attemps to get to the stamens. The variety Frau Karl Druschki was most heavily attacked.

SPIRAEA

SPIRAEA APHID (Aphis spireaella Schout.)

Missouri — L. Haseman (June 25) This aphid has attracted attention throughout the month of June though it is growing less abundant toward the end of the month.

SUNFLOWER

A CERAMBYCID BEETLE (Mecas inornata Say)

Mississippi — R. W. Harned (June 22): The cerambycid beetle Mecas inornata was found girdling the tops of sunflowers at Natchez by W. L. Gray on June 13.

I N S E C T S A T T A C K I N G M A N A N D

D O M E S T I C A N I M A L S

MAN

HOUSE FLY (Musca domestica L.)

Missouri — L. Haseman (June 25): Though the season is not very far advanced the house flies seem more abundant than usual and especially for this season of the year.

Texas — O. G. Babcock (June 22): House flies are more numerous at Sonora, San Angelo, and Ozona at this time of the year than ever before observed for the past five years. A few cases of typhoid fever reported and one death. Source of infection not proved definitely. There are no sewage systems in Ozona or Sonora.

CHIGGERS (Trombicula irritans Riley)

Indiana — J. J. Davis (June 24): Reports of chigger abundance have been received from southern Indiana.

Nebraska — M. H. Swenk (May 25-June 25): The first reports of chigger attack on man for the season have come from Boyd County on June 17.

Missouri — L. Haseman (June 25): Throughout central Missouri during the middle of June the first signs of an epidemic of chiggers was observed and complaints are coming into the office from various localities.

Texas — O. G. Babcock (June 22): On May 11 the first record of chigger attack was obtained from Menard. The chiggers were very few in numbers. A later visit on June 21 gave 42 chigger bites on the person, a great increase over May 11 of approximately 90 per cent.

MOSQUITOES (Culicidae)

Mississippi — R. W. Harned (June 22): Troy Thompson reports mosquitoes unusually abundant at Waveland, in Hancock County, on the Gulf Coast.

SALT-MARSH MOSQUITO (Aedes sollicitans Walk.)

Louisiana — T. E. Holloway (June 15): For the last few days the City of New Orleans has been overrun with salt-marsh mosquitoes,

Culex sollicitans. Not only the residence districts but the business section is invaded and the mosquitoes bite day and night.

BLOOD-SUCKING CONENOSE (Triatoma sanguisuga Lec.)

Mississippi — R. W. Harned (June 22): Several specimens of this bedbug were received from a correspondent at Woodland, who wrote: "They were found in our house last year and have appeared again this year. I have found them mostly on the beds and they sting or bite the children at night. Last year I found about two dozen of them, finding from one to three at a time. This year we have found three, one of them in a neighbor's house."

DOG FLEA AND CAT FLEA (Ctenocephalus canis Bouche and C. felis Bouche)

Nebraska — M. H. Swenk (May 25-June 25): More than the usual number of infestations of houses with fleas were reported during June.

Missouri — L. Haseman (June 25): Complaints continue to come in regarding fleas infesting livestock farms in particular.

AMERICAN DOG TICK (Dermacentor variabilis Say)

Ohio — F. C. Bishopp (April and May): During April and May this tick was fairly abundant in brushy pastures in the region around Columbus.

Wisconsin — F. C. Bishopp (April): This tick was reported to be present in great abundance in the vicinity of Fifield during April. It was causing blood loss and "worry" to livestock and attacking man.

Nebraska — M. H. Swenk (May 1-25): A Kearney County woman complained of getting infestation by the American dog tick while pulling weeds in her flower garden on May 5.

HORSES

HORSE FLIES (Tabanus spp.)

Missouri — L. Haseman (June 25): Recently over portions of central Missouri an unusual epidemic of two species of horse flies has occurred.

CANYON HORSE FLY (Tabanus rubescens Bell.)

Texas — E. W. Laake (June): The canyon horse fly has increased considerably during this month in the Dry Frio Canyon. As many as 25 flies have been observed on one animal during the last few days.

CATTLE

HORN FLY (Haematobia irritans L.)

Ohio — F. C. Bishopp (May 27): The number of horn flies has increased

considerably during the month but cool weather has held them in check to some extent. The average number per animal is about 200. Although they are annoying dairy cattle some dairymen have not begun to spray for them.

Missouri — L. Haseman (June 25): This little fly is now infesting livestock in swarms and seems more abundant than usual at this season.

Texas — E. W. Laake (May 20): It is rare to see over half a dozen horn flies per animal in southwestern Texas. The extreme dry and hot weather has held this species of fly down to such an extent that in many places it seems to be almost entirely absent. (June 20): Horn flies have increased considerably during the last month and conditions are now very favorable for their development.

O. G. Babcock (June 20): At Menard adults are averaging from 150 to 250 flies per animal. Sores were also beginning to appear. (June 23): At Sonora adults are averaging around 50 to 100 per animal. Very few signs of sores appearing.

STABLE FLY (Stomoxys calcitrans L.)

Ohio — F. C. Bishopp (May 27): A few stablefflies have been present at Columbis throughout the month but they have not been numerous enough to cause much annoyance to stock.

SCREWWORM (Chrysomya macellaria Fab.)

Ohio — F. C. Bishopp (May 28): In examining swarms of flies around an animal rendering plant near Columbus I saw and collected a single specimen of the screwworm fly. This is probably the earliest occurrence recorded for this species at this latitude. The following percentages show the approximate relative abundarde of the different species at this rendering plant:

Phormia regina	84.5 per cent	Lucilia sericata	0.25 per cent
P. terraenovae	15.0 per cent	Musca domestica	0.25 per cent

Texas — E. W. Laake (May 20): The screwworm fly is extremely abundant compared to other species of flies throughout southwestern Texas. Worm cases in livestock are increasing and are very heavy where animals have recently been branded. (June 20): The screwworm fly is unusually abundant throughout southwestern Texas. In the Nueces and Frio canyons trappings show that over 95 per cent of all flies caught are of this species and when a good bait is supplied the traps fill up from 2 to 3 times a week. Worm cases have increased over 200 per cent during this month. In one herd of sheep in the Dry Frio Canyon 16 per cent of the animals were infested. The average is about 2 to 3 per cent for all classes of livestock, but is from 50 to 100 per cent for new-born calves and freshly branded animals. One case of screwworms infesting the ear of a three-months-old Mexican child living in the Dry Frio Canyon, 30 miles north of Uvalde, has been under the observation of the writer during the past week.

O. G. Babcock (June 23); Flies continuesin superabundance at Sonora. "Wormy" cases in wounds continue on all ranches. Remedial measures

as recommended by U. S. D. A. are being carried out, especially as to worm killers and repellents.

CATTLE GRUBS (Hypoderma bovis DeG. and H. lineatum DeVill.)

Ohio — F. C. Bishopp (May 27): Apparently annoyance from the oviposition of the cattle bot flies has not been very great to date. Cattle have been attacked on warm days but the actions indicate that the agitation of the stock is mostly due to H. lineatum.

On May 1 apparently all H. lineatum larvae had left the cattle's backs. On May 27 a considerable number of H. bovis larvae were still present in the backs of the cattle. The number ranged from 0 to 15 per animal.

There is some difference of opinion as to comparative number of grubs in the backs of cattle in Ohio this year as compared with the average. Most agree that the number is less than last year, which was an exceedingly bad year for them.

GOATS

SPINOSE EAR TICK (Ornithodoros megnini Duges)

Texas — E. W. Laake (June 20): Almost all sheep, cattle, and many goats are infested in the upper Dry Frio Canyon. Both pear and adult stages are present. Several cases of screwworms, resulting from sore ears caused by the ear tick, have been observed.

SUCKING GOAT LOUSE (Linognathus stenopsis Burm.)

Texas — E. W. Laake: Fairly common in the Dry Frio Canyon and some individuals are heavily infested.

BITING GOAT LICE (Trichodectes hermsi Kellogg and T. climax Nitzsch)

Texas — E. W. Laake: Every goat observed in the Dry Frio Canyon is infested with biting goat lice. The infestations are very heavy in most herds and are causing considerable damage to mohair. Very little dipping is practiced.

POULTRY

POULTRY LICE

Ohio — F. C. Bishopp (May): The body louse, shaft louse, and head louse are present in about the usual numbers this spring. Some flocks are very heavily infested, the body louse being the most abundant and injurious. Where chicks have been hatched with hens about the normal loss has been sustained.

CHICKEN HEAD LOUSE (Lipeurus heterographus Nitzsch)

Texas — E. W. Laake: The chicken head louse is present in almost all flocks observed in the Dry Frio Canyon. At many places this pest has caused great annoyance and considerable losses among young chickens.

ROSE CHAFER (Macrodactylus subspinosus Fab.)

Indiana — J. J. Davis (June 24): Continued to receive reports of damage to various crops and to young chickens from points from the south to the north end of the State. Last reports received June 3.

STICKTIGHT FLEA (Echidnophaga gallinacea Westw.)

Texas — E. W. Laake (May 20): Examinations of farm flocks along the highway from Dallas to Reagan Wells, in southwestern Texas, have shown that the abundance of sticktight fleas is the greatest in many years. From the vicinity of Austin to southwestern Texas the infestations were very heavy and the losses in egg production and young chickens was tremendous. Cases were recorded where the entire flock of young chickens was killed where no control methods were used. (June 20): Heavy infestations of sticktight fleas are found at almost every ranch or farm home in the Dry Frio Canyon. This pest has been observed in great numbers on goats, mules, horses, and other domestic animals. The losses of poultry are particularly heavy in this region.

O. G. Babcock (June 21): The last month has been unusually favorable for the development of the flea about Sonora. However, they do not compare to Menard as to abundance, where severe infestations are to be found. Cats, as well as chickens, are severely attacked.

FOWL TICK (Argas miniatus Koch)

Texas — E. W. Laake: This pest is present at every farm or ranch home where chickens or turkeys are kept in the Dry Frio Canyon. The infestations are from moderate to heavy and, together with fleas, have caused heavy losses in young chickens and turkeys.

CHICKEN MITE (Dermanyssus gallinae Redi)

Texas — O. G. Babcock (June 23): For the past two to three weeks the common roost mite, Dermanyssus gallinae, has been on the increase at Sonora. Several complaints have come to hand. The mites are increasing rapidly.

INSECTS INFESTING HOUSES AND PREMISES

EUROPEAN EARWIG (Forficula auricularia L.)

Rhode Island — A. E. Stene (June 20): A few reports on the European earwig have come in again from Newport and it is apparently as abundant as last year.

POWDER POST BEETLE (Lyctus planicollis Lec.)

Mississippi — R. W. Harned (June 22): Lyctus planicollis Lec. was reported on June 1 as seriously damaging oak furniture at Rich. Specimens were determined by W. S. Fisher of the Bureau of Entomology.

TERMITES

Nebraska — M. H. Swenk (May 1-25): Another report of injury to a house by the termite Reticulitermes tibialis was received on May 18, this time from Hall County.

Kansas — J. W. McColloch (June 21): Serious damage to woodwork in buildings has been reported from McPherson, Salina, Lawrence, and Manhattan.

California — C. K. Fisher (May 23): The termites are working in three or more houses on adjoining lots or those close together at Alhambra. In the house where most damage has been done they were first observed about a year ago after they had eaten through the floor in a closet into a trunk and into a pair of shoes which were in the trunk. The closet floor was repaired and the termites were not observed again until they had eaten some of the floor joints away and were coming through the hardwood floor in the living room. This was a week ago.

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